THE

Practice of Farming

AND

HUSBANDRY

In all Sorts of SOILS, according to the latest IMPROVEMENTS,

By WILLIAM ELLIS,
Author of the Practical Farmer, or the
Hertfordsbire Husbandman,

Recommended by the

DUBLIN SOCIETY.

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Profite of Farming

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THE PRACTICE of FARMING AND HUSBANDRY

In all Sorts of Soils, according to the latest Improvements, very useful for all Landlords and Tenants, of Ploughed, Grafs, or Wood Lands,

CONTAINING,

I. The Nature and Improvement of | V. Of Blights and Blafts, their O's the four Clays, four Loams, four Gravels, four Chalks and three Sands, with an Account of the Nature and Use of Stones in the common Fields.

II. The Nature and Improvement of the Oak, shewing seven several ways to obtain a Wood thereof, also of the Beech, the manner of extracting its Sap after three different Methods for its long duration. The Ash, Elm, Witch-elm, Horn-beam, Maple, Lime, Sycamore, Horse and sweet Chesnut, Walnut, Hazel. White-elder, and the Case of the Black-cherry. And also of the Asp, Sallow, Poplar, Alder, and other Aquaticks.

III. Of the excellency of the Whitelamas-wheat, and all other Wheats, Barley, Rye, Oats, Peas, Beans, Thetches and Tills, with a Copy of two Letters from William Hayton Esqr; of Clarkenwel, and the Author's Answer concerning the Propagating of Wheat and Rye in Northumberland, Also an Estimate of the Loss and Profit of Crops for the Year 1732.

IV. Of Natural and Artificial Graffes, being Remarks on a late Author's Writings on Trefoyl, Clover, St. Foyne, Lucern, Rye-grafs and Cow grais. Also a method XIV. Of Manures in general, their how to fave the difficult Seed of Lucern.

rigin and Nature, their Mischiefs and Preventions.

VI. Of Ploughing in general, being a full Explanation of broad Landploughing, Bouting up, Thoroughing down, four Thoroughing Hacking or Combing; also the Vale way or Ridging up and Caffing down: With Descriptions and Dimensions of the Wheel Ploughs; also of the Foot, Creeper, Kentish, Newmaket, and a new invented light Plough that does almost double work with the same Hor les that draws a fingle one.

VII. Of Sowing in general, VIII. Of Seeds, and to know the Good from the Bad.

IX. Of Weeds in general, their Mischiefs and Cures.

X. Of an Invaluable Liquot never . before published, to steep Grain in for Sowing.

XI. Of a new Method of Horfe-Hoeing, its Advantages and Diff advantages.

XII. Of Turneps, and how to fave them from the Slug, Fly and Caterpillar.

XIII. Salt, its feveral uses on Plougha. ed and Sward grounds, and of the Quantities that may be necessarily confumed in one Year, by a fifty Pound a Year Farmer.

Nature and Uses on proper Soils,

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The forest was a warring trees of The firm and the second panel Linear Daily to will make the presence resident a motion for with over the transfer to govern which to got The result personners of to the I have the I not be when Crops for der Year 1 . 7 . 7 V. of Name I and Ambient of Fr. Bring, Penfork and love to all the last of specific and eq. St. Fayes, Lucera, Ryc etal. and Con grave. Also a malhout MIV. Of stormers in general, their had we to Con the the difficult Seed of Norver and Ufts on proper Salla,





THE

PREFACE

Tis certain that no Profession is more useful in this World than this of Agriculture, and as truly has, from its vast variety of depending Objects, very numerous uncertanties attending it, besides the manage-

ment of the ignorant and flothful; and therefore experimental Rules of different Cafes are the more necessary to be imparted, not only to the vulgar and unskilful, but also to the more judicious and learned, because every Man, even of this latter Class, has not the
same Opportunity, nor does he think or act alike.

I am very fensible that the Subject of Forrest-trees has been set forth by able Hands; but as my Residence is constantly amongst them, and I imploy Workmen in their management in that part of the Country most samed for such Artificers, I may have come by some useful Secrets which others have missed, and have been treated on most of those Sorts, except the Scarlet and Doergreen-Oaks, whose Acorns being to be bought in London, may be propagated at discretion. Not that I would be understood to depreciate the Merits of others, for I am of Opinion, whoever has tent but a little singer towards the improvement of this most assign and bound

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les Science deserves Encouragement : But I bere must also observe, that as I occuppy my own Farm and the Glebe-land of our Parish, containing in all twenty four inclosed Fields of several Sorts of Soils; I have bad a very favourable Opportunity, almost twenty Years together, in a Country where Farmers are allowed in the general to excel all others in this Kingdom, to make my Observations, Collections and Experiments; and so great a difference there now is, between the present and the former practice of Agriculture, as made an old saracious Farmer, who has acquired a good Estate by his Industry, and is now living, say, that he thought be bad been afteep these forty Years past; alluding to his old erroneous Ways and the present now Improvements, which are so vastly different from our Fore-fathers management, that more Grain, fruit and Cattle are obtained now in one, than formerly in two or three Acres, befides the knowledge of imploying the Ground in the Fallow-feafon or third Summer, to the great enriching of it, which beretofore used to be lost: Norindeed could many Tenants pay their raised Rents, quere it not for thefe Improvements, as may plainly appear by the following accounts of Soils, Grains, Graffes, Manures, &c. And for want of this Husbandry many Estates and Families have come to Ruin that I could mention, were it not too long for my present purpose; besides Londoners, who sometimes precipitate themselves into such Undertakings by Purchase, &c. who are at the same time greatest Strangers to it : Others just come from the Seminary of Learning, and only arm'd with Theory, fireceed their Parent in the Possession of a large Estate: Others again that are brought up on the Spot; but by Youth, or imperfection of Parts, are obliged to be guided by their head Servant or Ploughman, who even then are under the greatest Risque of his Honesty, and if he prove Willain, then wee to the Mafter.

Since the Publication of my first Book, a Gentleman of a considerable Estate told me be was going to take one

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of his Farms into his Hands of three Hundred a Year. and that be did not doubt but that, what with observing his Neighbours management, and regaling them now and then into a free Cynversation, he should go on as: well as they, but this Notion has proved fatal to many, especially in the Chiltern Country; for to fay the Truth, the common Farmer is as subtle a Man in his way as any Mechanick what sever, and will be so far from leading any Gentleman into the true method of Farming, that most of them very justly hold it as contrary to their Interest; for, say they, if this is encouraged, bow fall we come by Farms to occupy. A Captain of a Man of War in Queen Anne's Peace, bought a large Farm, held it in his Hands, and told his Friends be would get Money by out-witting the Farmer; the Refult was, after fome Years last past, one of his Friendsasked him bow his Project succeeded; his Answer was, that he thought it not in the Power of Man to be too comning for them: and it is well for them they are fo, confidering the many Discouragements they often meet with from the extremities of the Weather, from Beafts, Infects, and the greatest of all others the worse sort of Men, who take all Advantages to pilfer from the Farmer his fat Sheep, Turneps, Corn, Fruit, and many other Things.

For these Reasons, the World may easily see bow vastby useful experimental Rules and Cautions are to the Youth, Heir, Gentleman, unexperienced Farmer, and even to the Foreigner, who may here belet into the mysterious Oeconomy of true Farming, and so avoid the Curse of running themselves out by Mismanagement and Impositions, before they enjoy the blessing of Prosit,

and become tolerable Masters of Husbandry.

I am the first that has published that invaluable Receipt for steeping Barly and other Grain in the most service Liquor that ever was invented in this Nation; also the missortunes attending Tresoil-grass, &c. which in a great measure I have made appear in the following Sheets: But as two Letters came lately to my Hand.

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Hands from a Gentleman in London, and I answer. ed them on the 18th of February last, 1723. it happened to be too late to insert their useful Copies in this Book, but I intend to print them in my next Work. The Case was this, he being about to give Orders for converting aten Acres ploughed Field into a Meadow, wrote for my Advice, telling me be thought to fow Clover and Trefoil with his Hay-foods among f his Barly, which indeed he might justly think proper from what bas been printed in Commendation of Trefoil for this purpose; but I wrote kine, that if this had been done, be would consequently lose most of his Charges and Time, for that the Trefoil-feed is a most wrong fort to accompany the Hay-seed by reason it is one of, if not the greatest and thickest Brancher of all others; by which Property it would smother and kill not only the tender Sprout of the vatural Grass, but also the very Weeds under its Horizontal Cover: Yet this is only one part of the mischief this artificial Grafs is subject to, as I have in this Book made appear by my Remarks on a late Author's Writings on this and other Graffes. And therefore if I had advised the Gentleman to lay down bis Ground in this manner, I should have acted the part of a downright Theory Author, who takes verbal Relations from I knownet who, and not baving judgment enough in Agriculture to chase the better part and leave out the werfe, I might by such destructive Schomes de incredible projudice to Undertakings purfued by fuch fallacions Intelligence.

I thought it time to user into the World a plain and experience a account of the Plough, since I understand several have declared the Benefits of Grain, Grass, Wood, and many other Things, but I never yet met with an ample account how they are brought to pass by the true knowledge and use of that transcendent Instrument. A new Wheel-plough being invented and brought into use for the first time in January last, 1732. I have not been so particular in the Chapter of ploughing, to write

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its Description and Dimensions, as I here shall be. It is a single-beam'd Plough, ten Foot long with two Sharrs, the Bob-tail and the common Sort, two broad Boards, two Coulters, and only one fixed Staple. It will do near double the work of the common Sort, because it ploughs two Thoroughs at once in the Wheat-stitch for sowing of Beans and Peas, and in broad Land ploughing, &c. it may be drawn in some Ground very well with four and five Horses, as I have emperience d, and in most with six. By which it saves almost half the Time, half the Horses Provender, balf the Charge of the Ploughman and Boy,&c. and ploughs the Earth rather cleaner than the fingle one; is easier and steadier for the Ploughman, except on turning at the Land's end. and not a great deal barder for the Horses, its two Shares weighing no more than fifty two Pound, which some single ones will do; in bort, it is a most excellent Plough, that I hope will be made use of in time throughout the King's Domi nions.

And it is my Opinion, that when the Practice of Husbandry can be made more familiar to an ordinary Capacity, and more delightful to the brighter Genius by the true relations and practice of Things as they refult from Experience, there will be more Gentlemen than ever occupy themselves in a Country Life, and then will find as one of them was pleased to say more Pleasure in one Day in the Country, than London could produce in a Month: Wherefore I doubt not but that a Country Life will be more and more bereafter in greater Efteem than ever, and more eagerly pursued by the abler Sort, whose Abilities are capable of such Undertakings, without which the Country indeed is rather a melancholly Situation than the Town, but where such Persons are engaged in the Occupation of Farms, Plantations, or spacious Gardens: 'Tis bere, and from this Scene of Exercise that Health, Wealth and Pleasure derive, and as the Reverend Mr. Laurence faid, he believes an Angel would prefer, if he was confin'd to this lower Region. There

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There are some, I am very sensible, that are apt to cavil with, or condemn a thing meerly for its being new, or that the same has been wrote on before, as if a Subject could not be further improved; but whoever will without prejudice consider the practical and rational part of the following Chapters, may assuredly find their Expectation answered, if their several Rules are closely followed, by which the King's Revenue will be surely augmented, and Great Britain, Ireland, and bis Majesty's Plantations in America, in all probability, vastly encreased in plenty of Grain, Grass, Wood and Cattle, which Rules are here freely exposed, not in chimerical Notions, but in solid Truths, not in Relations of Things taken upon Tenst, and surnished up by a politer Pen than my own, but in experimental Facts deliver'd in their true nation rushick. Dress.

What I have here treated on is now made plain to a mean Capacity, and particularly that most necessary and most intricate part of Farming, the nature of Soils, Manures, the several sorts of Plays he and their Operations, with many other Things never before so and ply done as I know of in any other Book what sever according to the new and latest Practice in Husbandry



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EXPLA.



EXPLANATION of some Words in this BOOK.

SPECT, is such a Position or Bearing of the Side of a Wall, Barn, House, or Garden, to the South, East, North, or West.

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Back Bouting, is done by drawing the Plough once forward and backward, thorough that which

has been boughted not veil a good the or his moned

Builts of Grafs, are those which some call Hedge-Greens; they tie next to the Hedges in ploughed Fields, and serve to turn the Plough-Horses on.

Boughting, is made by two Thoroughs, that the Plough by going backward and forward, throws up against each other.

Broad-land Ploughing, is just turning an even Piece of Ground topley-turvey, and is the neatest,

cleanch Ploughing of any other.

named, upon Account of its Coldness, with Re-

spect to the neighbouring Valleys.

Combing, or Hacking of Land, is made by the Plough's being drawn forward and backward closer than Boughang in smaller Thoroughs; and tho a little sharp Ridge, or Sleeving be left, yet in a

manner, this is noar clean Ploughing.

Four-thoroughing of Lend, is not clean Ploughing, but running up four Thoroughs close together with the Plough; is best done off Wheat-Stubble Stitches in the Winter, to sweeten for Pease or other Grain: or Broad-Lands may be ploughed into four Thoroughs, a good Method.

Horfe-

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Horse-boeing, is so called by reason it saves Man's Hoeing; not that a Hoe is used by Horses, but their drawing a Plough in a particular Manner supplies the use of a Hoe.

Hove in Cheese, is a Hollowness with Eyes, cans-

ed by being made from Clover.

The Hoving of a Cow, is otherways a Swelling caused by the Wind, in Clover or Lucern Grass.

Kerning Ground, is that which, drest well, will produce a great quantity of Corn, as Gravel does, when others will run more into Straw and less Corn.

Loamy Ground, is that between Sand and Clay, of a Hazel Colour, and is of all others the best Sort.

Nitrous Dews, are Salts in the Dews, which are

beneficial to all Roots they come at.

Smutty-Wheat, is that, which is discovered by it's Black Ear, and may be seen in standing Corn, from that which is found. Upon rubbing it on the Palm of the Hand, it will leave a Black Powder like Soot.

Stitches, are small Ridges, such as we common-

ly have in Ireland in our ploughed Fields.

Tilth, or Tilt, is Ground reduced by the Plough

and Harrow to a finencis or Powder. The sould

Thoroughing down, is drawing the Plough once thorough the Bout, to lay it plain, for Wheat or Barley.



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CHAP. I.

Of the Nature, Culture, and Improvement of Soils



Have thought it most necessary, as well as previous to the following Book, to begin with an Explanation of the very best Part of Husbandry, which I think is justly included

in the feveral Terms of the Nature, Culture, Melioration, and Improvements of Soils; as therein lying the chief Foundation of After-success, in the Growth of Corn, Grass and Trees: And from this Occonomy do many Branches of this most

ufeful Part of Agriculture proceed.

I shall therefore particularly illustrate the Benefits, as well as expose the sad Effects that arise from their good or bad Management. The Chilern, or Hilly Country especially, is more than ordinarily concerned in these Subjects, by reason it is mostly enclosed, and consists in diversity of Soils, of Clays, Loams, Sands, Chalk, Stony Ground, Hurlucky and Gravelly Grounds, and feveral other Sorts, that abound more or less with Parts of these Earths. While the fertile Vale or low Country runs chiefly but in little other, than the black Loams or blewish Marley Clays in open Fields, that are commonly under one and the same management of Culture; and is easier by far brought into a Tilth or Condition for Corn, than this of ours, and with a great deal of less Charge and Trouble; for there, they are often afraid of being too fine, especially for their Beans, while we here are in as much Concern of fearing the Corn is bound in by the hard tenacious Nature of our Earth; That will not shatter nor crumble by a little Frost, or working as that in the Vale will; where they are generally Strangers to a very Stone. while we in the upper Grounds in many Places, are forced to plow amongst but little else. therefore computed, that 51. will go as far in a Smith's Bill in the Vale, as 15 will in the Chiltern, and it is in this latter that the plowed Ground lets for more, even for 20 s. an Acre, when the best of theirs but for o. The Vale also is free from the exerbitant Charge of Chalking the Ground, or drefling it with Soot, Concy-clipping, Horn-shayings, Rags, Hoofs-hair and Ashes, which are Mearly bought by many of the Chiltern Farmers: so that I have known some of the Occupiers of gravelly Soils, fay, they must lay out the value

of an indifferent Grop in dreffing, before they can get a full one into the Barn. When they in the Vale do all with their Fold, and Dungs that are made from their own Cattle and Fowls. And even some of their Ground (but tarely) is exempted from this, as that of Chedington-Hill in Bucks. part of which belongs to Chedington Farm of 1641. a Year, that I help'd a Gentlemen to about 12 Years fince, a very eafy Purchase, some of which has had no dreffing on it in the memory of Man, and yet the Grain is frequently too rank: And therefore as the Rents and Charges in the Chikern for exceed those of the Vale, it has been made a fieceffitous Study, how to manage these enclosed high Grounds, fo as to make them answer their racked Rents and extraordinary Chargest This has produced feveral new Improvements by Turners. Foreign Graffes, Plantations of Fruit Trees in ploughed Fields; as also the various kinds of Dreflings utterly unknown, at least unpractifed by our Forefathers, and the prefent Vale Farmers. Yet fill are not these great beneficial Alterations adherid to, and made use of by many in the Chill tern at this Days who are to by affed by their Anceftors Mathods (as I have already more amply observed) as not to admit of new Rutionales, the of ever fo great Importance, and this is fo very common, that many will justify for least endeal your it) the third Year's Ground laying Fallow, which indeed is putting the Enclosure almost on the fame Footing of an open Vale Rield, but this obflinate Abfurdity brings them under less Profit. than those that husband their Ground otherways. But there is a worse Cause of Complaint than the former, that is, their fowing Corn, and foreign Grafs-feed and Turneps, in furty, four Tilths, which is generally to facul to the Owner, as to wrong him fometimes of half his Crops For fit this

this Case, the Honey-suckle, Horse-gold, Growneedle, May-weed, Black-bennet, Cliver, and Tyne-weed, which last is a Sort like a wild Thetch, and will climb and twift Cliver like, haul and pull down a whole Field of Wheat, growing sometimes 3 or 4 Foot high; these with the Thistles, and many others when they get the Dominion, is, up Weed and down Corn, as it happen'd in many Places in the Chiltern this wet and long cold Spring that held to the last of May, 1732. And this Piece of ill Husbandry is occasioned, not only for want of frequent Ploughings in their proper Seasons, but often by the Ignorance and Idleness of the Plowman, who either goes fo shallow, or plows his Thoroughs fo wide, or misses Part of the Ground. An Instance of which I never knew more clearly exemplified, than in two neighbouring Farmers, that occupied each their own Farm, one of 70 1. the other of 241. per Annum; the former, who had rather the better Land, kept generally Plowboys instead of Plowmen, who but half plowed his Ground, and that not often enough, would fow a Piece of Land 20 Years together with Corn, and in this manner went on in many other Things, till it brought him under fuch an Odium, that the Country cryed out he was an Enemy to the Common-wealth. So that the least Farmer had generally the most Grain, who managed his Ground in true Order; for which very reason, some Plowmen are cheaper at 10 % a Year, than others at 5/, and to fay the truth, there is no fuch thing as right Farming without him, who will at one skilful Plowing do the Ground more good, than two or three, and for a great deal less Charge. This I have thoroughly experienced in the several Plowmen, that I have alternately kept, and I think I can fay there is not above one in fix that is a right Workman, even in this our celebrated

brated Country, which by many is accounted a fort of Nursery, for the Men of this Protession. There are four ways of preparing and meliorating the Ground: The first is by good Ploughings, and this way may justly be faid to be the best of all o-The second is by mixing of Earths. The third by Dungings and other Dressings, and the fourth is by resting the Ground chiefly by sowed Graffes. By Ploughings it is that the most stubborn Earth is reduced, and brought under a different power; from a hard, stiff, clotty and fixed Substance, into a fost, loose and hollow one; whereby it is made a fit Receiver, and kind Entertainer of all those Seeds and Plants, which it would otherways either utterly refuse or not emit its fertile Qualities into the same, in a due Proportion: It is this that made the first Italian Plowman, be accused of practising the Magick Art, because he had much greater Crops than his Neighbours; but when he had proved this was done by that useful Instrument, the Plow, he was difcharged under as great Reputation. This most excellent Invention is that, that causes the Ground through often Ploughings, best to receive the Sun. Air and Dews, as well as discharge its nitrous and fulphurous Vapours, by the Pores of the Earth, by which most natural Perspiration, the Ground is fweetned and made healthful to the Production of all Things that grow therein, which it could not throw out so often, and so easily take back again, when rarified by the Sun and Air, if not brought into that loofe, hollow Condition, as the Plow and Harrows are the fole Occasion of: Hence it is that the Farmers about me often ask how I come by such Crops of Lucerne, Clover, Trefoyl and Ray-grass. My Answer generally is, that I give my Ground more Plowings than they do; nor can I perswade any of them to plow the Ground twice or thrice

thrice before they fow Oats, by reason one Plowing is only due for their Culture; but then their Attempts of getting Clover to take amongst them is often abortive: This I have proved in a Field that was half Oats and half Barley, that was fowed with Grass-seeds all at a time. The Barley Part was plowed three Times, and the Oat only once ; the Result was, that the Barley Ground took the Grass-feed very well, when the Oat hardly receiv-The one was loose and envellop'd the ed any. Seed, the other hard and would not give room for a Lodgment, even to fo finall a Seed as Clover ? for I only fowed and rooted it all in amongst the Grain at one and the fame time, on the bare Surface, after the Barley and Oats had been some time And common reason, as well as the Success of Things, is certainly an Advocate for the curing and meliorating of Ground by the Plow, which, by the Attest of our Farmers, is allowed also to be the best Weeder of any, but then the several Sorts of Plowings must be ordered and adapted according to the feveral Soils, and according to the feveral Seeds that are to be fown, or the Plants that are to grow in it; the other three. Branches by mixing Earths, by Dreffings and by resting the Ground, I shall amplify hereaster.

Of the Nature, Culture and Improvement of the four Sorts of CLAYS.

Of the Nature of CLAY.

LAYS either red, yellow, white, black or blew, call for different Operations with the Plow from all others, because all their Natures conter in this one Particular Quality of their being tougher, and more tenacious than any other, it exceeds

ceeds all in its four, furly Nature, caused by it's intense, cold, aqueous and marly Parts; these so lock up its saline Particles, that there is no opportunity of making them yield, and act in the propagation of Vegetables, without great Violence; and to that purpose was Calcination found out, which quite alters the Clays into a reverse Nature, from their most binding, holding, clinging Parts, to the loofest of Bodies, as all Powders are; Next to this appears the Utility of the Plow, which tho' a milder Reduction of its conflituent Parts. yet by its progressive Operation, will with the help of the Sun, Air and Rains, oblige it to a Dilution, and so make it a fit Receptacle for Plants or Grain. Clays, tho' all bear this one Name, do yet certainly all vary in their Natures as well as Colours, and require different Sorts of Culture in their Management, and therefore I think myfelf under a necessity to do justice to my Reader, by explaining their Properties and Ordering.

Red Clays here feem to stand in the front of all others for its three Qualities, of Toughness, Coldness, and Moistness; the first is so great a Power from its close Texture of Body, as to give way to none in many most necessary Uses, especially in that of being made an Artificial Foundation for holding Water in Ponds and Canals; this when duly ramm'd on Chalks, Sands, or Gravels, will preserve Water time out of mind, and keep it together as well as if the Earth whereon it is laid, was an entire Mass of Clay; this also is made a bottom for Brewers Tuns, and by being beat and tempered with short cut Straw, often supplies the place of Boards to the Sides of the poer Man's Cottage, with the help of a Hazel or other Poles. 'Tis this Clay that is in fuch Vogue at present for producing the most fertile Ashes of

all others for Sward, or plowed Ground, that many of our Nobility as well as others have calcinated great Quantities of it. By its Coldness, it makes the very best of Conservatories when paved with Brick or Stone, for keeping of Liquors and preserving them from sowring beyond all others, and is of the greatest Use in making Tanks in Fortifications, with the help of Terrace Mortar for holding the Rain Water, which is all their Subfiftance, as having no other Supply all the Year, than what falls from the adjacent Houses, or Defeent of the next Grounds, and returns by its refrigerating Quality the most refreshing Draughts. By it's moistness with a little Cover, it is defended from cracking and giving way to the running out or leaking of Liquors; which also makes it so serviceable in Bungs of Casks, and keeping of Beer from Sowring by its great Humidity, that it long retains in a small Body, and more if mixt with Bay-salt: 'Tis this rich Quality that saves our Clayey, Loamy Gorunds from being parch'd, and the Crops from being burnt in the dry, hot Seasons; while the Gravels, Chalks, and Sands are in a ruinous Condition from the Excess of those two Extreams. These three Properties of Toughness, Coldness and Moistness makes it of extraordinary Service in Mixtures with Chalk, Sand or Gravel, as having the three contrary Qualities, of Loofness, Heat and Drought, and then makes it one agreeable Soil, though compounded of several. This red Clay requires more Plowings, and oftner and deeper than any other fort of Clay or Soil whatfoever, tho' more largely and better to expose all its parts to Sun and Airs, Heat and Drought, that it's close Body may be relaxed, it's cold and four Nature sweetned, and it's moift and watry Property dryed: By all which Benefits, the Salts in the Clay are brought under a power-

power of Acting, which before was fo pent up and fixed, as made it a mere barren Earth. Whereas according to the Notion of the modern Vertuoso's, this fort is more impregnated with fertile faline Particles, than any other Soil whatfoever: Tis therefore, that in this County, some Farmers will lay out half their all, in chalking their furly Clay Grounds, because they hope for 20 Years Success together, in reaping the Benefits back again with great Interest; for this Husbandry of late has proved it felf to be of admirable Service in many Branches of Farming; and I believe never more than in the tedious, cold, frosty, and wet Months of April and May, 1732. that spoiled many Crops of Peas, in the Clay and Loamy Grounds that were not Chalked, and obliged the Farmer to Plow them up, and Sow white Oats in their room. But I fared much better, tho' on a wet, flat, clayey, loamy Ground, because the Chalk that was remaining in it, and two Plowings that I gave it, so loosened and hollow'd the Earth, as let in the Water lower than the Roots, and fo preserved my Peas from the destructive chill, and cold, raw Vapour of the Water, that turned others Red, and brought on the Loss of whole Fields; for in red, clayey Soils there is a fatal Quality different from all other Clays, as I have observed, occasioned by its austere, and more than ordinary tough, cold and moist Nature, which when once it has caused the young, green Peashoot to turn red, it never recovers, which in all other Earths it has more or less an opportunity to do: This plainly shews the great Necessity there is of meliorating this Soil, before all others, as being naturally more barren and four in it felf than any of the rest. But when it is so thoroughly cured, this Ground has as many good Properties belonging to it: It is this Earth that produces the

best Crops of Wheat, it is in this that Clover. Turs neps and Beans will flourish and be the biggest Crops; and it is here that Oaks, Pear, Walnut, Ash, Beech and other Trees will grow to the largest Size, be of better Wood and longer duration both in Timber and Boards, provided they are planted high enough on this fort of Ground, and therefore this red fort of Clay makes a greater demand for Ploughings and Dressings than any others, because it will do more than others if truly assisted with good Management; in short, I think I may fay it is the best and worst of forts as I have experienced: The worst as I have demonstrated before when its Salts are exhausted by cross cropping, or by too often fowing, and this is evident, by the Proof it leaves after a Crop of Barley is got off, that was fown on a Wheat Stubble; which notwithstanding the Ground being dressed well by Chalk and Dung, yet will refent and complain of this Usage for Ten Years after in a greater or leffer Degree; and however feveral Farmers have prefumed to go on in this way, I'll answer for it, they will in time be convinced by their loss of this Male-practice: And this very Spring has produced a dismal Prospect of it's great Prejudice on a high Clay Ground near me, that has been harraffed by cross Crops, Grasses, and four Tilths, although the present Tenant has chalk'd as well as any in this Country. This Soil agrees with almost all forts of Dreffings, and is not of that ravenous Nature as Gravels and Sands, &c. are; and to fay the truth, less Dreffings and more Ploughings, best fuits this fort of Clay, which I have often feen, returns its Dung to view that had been ploughed in a Year or two before; but above all Dreffings, none agrees fo well with it as dry ones, fuch as Lime, Chalk, Soot and Ashes. White

White Clay, or Tobacco-pipe Clay is not fo tough, cold not moift as the red Clay, but has loofer, warmer and drier Parts, which renders it a beneficial Earth: This Land will be brought into a condition for sowing of Grain with less Ploughings, and when fully encouraged by good Tilths and Dreffings, will yield waite Crops of Grain, as may be annually feen in fome parts of Ivinghoe Parish; this by the more able and better fort, of Farmers is double dreffed by Fold and Cart Dung. and frequently returns 40 Bushels of Wheat on an Acre; and in this do Barley and Peas mightily thrive, as well as Wheat, especially in a wet Summer, but Beans do not fo well answer. This flat, white Earth has, besides its many good Qualities, one very bad one belonging to it, that often ruins part of its Grop, while in their Youth, and that is by Frosts, Winds and Rains. The Frost fooner shatters and crumbles this Earth than any other, that I know of, which in Stitches of Ridges, makes it fall from the Roots, and leaves many of them bare; this Evil, is also much encreated by the Winds and Rains, for in the Winter and Spring, the violent Winds that succeed the Frost, blows this fort of Earth from the Roots of the Grain, and what that miffes the Rains compleat, by washing the Earth away from many of the Roots; therefore the Fold is here the very Best Remedy, which by the tread of the Sheep, makes this Ground turn before the Plow in a clot ty Substance, and then it is in that Order the Farmer likes best. For as this white Land is casily brought into a Tilth, and so becomes finely powdered, it produces vast Quantities of Poppy which is the chiefest Weed that hurts this Ground, and then the Farmer is like to fuffer; but the more to prevent that, and also the damage that often happens by the Frusts, Winds and Rains, they com-

commonly fow this Ground before, as well as at Michaelmas, with Wheat, and run the Fold over it afterwards, in order to settle and fix the Earth about and upon its Roots, that the Weather may not have power to spoil the Crop. Again, after this they use the Roler, by drawing it a cross and along the Stitches, to fasten and enclose the Roots of the Wheat, which makes a fecond and double Security against the Wind, Rain, Sun, and Froft, and is much better than top-drefling the Grain after it is in the Ground, with Dung, by reason the Dung will by its Heat, keep the Ground in a loofe Condition, and so hinder the Roots from taking fast hold of the Earth; this makes the Fold on this Earth preferable to Dung, altho' it is plowed in, and also to light Hand-dressings that are sown early in the Spring on this Ground, as Soot and the other forts. In this white Clay, Clover will grow, tho? not so well as in the red, and yellow, and black Clays; and therefore Trefoyl, and St. Foyn are generally here fown before it; Thorns and other Hedge-wood will grow well in this Soil, and fo will Elms. As this Land is of a warm and somewhat dry Nature, they fow their Wheat, and their Lent Grain early, that they might get Cover before the Winter Frosts for the Wheat, and Shelter against the Sun's Heat in the Summer, and more effectually to come by an early and full Clover, they fow more Seed in this Ground than ordinary, to shade the Roots, and even about Christmass I have known them to sow Peas, so that great Dreffings, and thick early Sowings in this Sort of white Ground, is perfectly necessary; but particular Regard is generally had by all Occupiers of this white Ground, to endeavour the fowing it in wettish Weather, that this Ground may turn up clotty before the Plow, whereby the Seed is -1100

the more fastened in it, the Poppy prevented, and

the Crop better secured.

Yellow Clays require Ploughings in much the same manner as the red Clays, and as it is more Loamy than the red, it is certainly the richer Soil, and in it both Trees, Grains, and Grass will grow and thrive much faster; so that as this is the better fort, I need say little more, than that the same Culture and Management, that is requisite for the one, will do for the other.

Black or blew Clays -- I am now come to touch on the very best of all Clays; 'tis this and the black Clayey Loams, that empower the fertile Vale of Ailsbury to vie, I am of opinion, with the richest Lands in England; and 'tis from hence, that the Vale of Espam, Rumney Marsh, and other low Grounds, that furnish this Nation, as from a Magazine, with the greatest Quantities and best forts of Wheat, Beans, Beef and Mutton, &c. This black Earth produces the best and finest red Lamas Wheat, and in such large bodied Corns, as entitles their Sellers to 6 d. a. Bushel more than the Chiltern Men can generally get for theirs, altho' of the same fort, because theirs will not weigh ours by a confiderable deal; However, I have now the Satisfaction to fay, I hope in a few Years our Chiltern Country, by the help of fowed Grasses, Turneps, and the use of this my invaluable Liquor, will be able to get better Crops of Wheat and other Grain than heretofore, and little inferior, if not as good as the Vale. This black Earth is composed of a black, blewish Clay, with some black Mould, and as the latter is more or less in it, it has so much a proportion of the Loamy Nature; it lies there of a considerable Depth, free from Stone, and clear from the great, deep Hogweed, Cat's Tail, and other Trumpers, that the Chiltern Men in many Places at this Bay are, through Ignorance, troubled with to the Destruction of many of their Crops, as I shall further make appear hereafter. There is no Earth in the Kingdom will carry greater Burthens of Corn and Straw on it than this will, and with as little dreffing as any; for indeed the main fort of this black Vale Earth, is all a fort of Marle, and tho' sometimes of a stiffish Nature, at others it is as loose, by reason of the Frosts and Winds great Power in bringing it into a crumbling, short, loose Condition, so that here they commonly plow their very Wheat in as well as their Beans, for the fake of making it stand fast in their great open Fields, their Irons wear little, their Weeds only Thistles, Docks, and Hale-weed, their Dressings cheap and on the Spot, and their Rents and Servants Wages proportionable; but then these Conveniences are not without their Inconveniences, for they sometimes, I may fay commonly once in about three Years, lofe whole Flocks of Sheep by the Rot; their Lands often flooded, their Horses Heels frequently crack'd by the Dirt, their Firing searce, as being obliged to burn the Stubble of Wheat, Barley and Beans, instead of Wood; and in short, they had need have fomething extraordinary to make them amends for living amongst Mud, Dirt and Water, where not only their Wheel Carriage is confined good part of the Winter, but also themselves from visiting even their near Neighbours; besides the almost constant and greatest Missortune of all, of living in an unwholesome, aguish Air. It's true they abound in plenty of Corn and the best of Grass; but then they are Strangers to that grand Conveniency of enjoying Fields of Turneps, and fowed Foreign Graffes, which, if rightly improved, we may make our Chiltern as productive as their best Grounds in the Vale; and indeed 'tis this that is my Ambition and Aim, to fludy and find out by Experience, that Art, which will

will so help Nature as to make poor Land rich, by impregnating it with those fertile Salts, and nitrous, suphurous Qualities, as to render it in effect equal with this black, marly Clay, which I am persuaded may be done in numberless Places, in this our hilly Country: Not that I pretend to fay a Chiltern Man can farm as cheap as a Vale Man; no, that is morally impossible, from the hard Texture of our Earth, and the Stones that are therein, which ever will be the Cause of a greater Charge of Smith's and Wheeler's Bills, &c. and a larger Expence of Hand-dreffings to fupply the hungry, lean Nature of our high and dry Grounds: But then we have our advantagious Returns, of Turneps, fowed Graffes, Fire-Wood and other forts, besides the Enjoyment of the third Year (that with them lies Fallow) under fuch Feeding which they cannot have, because on black, clayey Mould that is deep and wet, neither the Turnep, nor artificial Grass will answer, by reason of the Cattles stolching, nor will the Turnep any more than the Cherry or Beech thrive in their wet, spewey, clay Ground.

The Culture of the four Sorts of CLAYS.

The Ered Clay being the most obdurate Sort, and the most dissicult to reduce to a fine Tilth of all the rest; the Art and Labour of the most accurate Ploughman, is sometimes soiled in his Endeavours to accomplish it, by reason this Earth is made worse to answer that End, by the Extreams of Wet and Drought; by Wets it becomes more fast and tenacious than at other times, as Lime is by Water converted into a more viscous, binding Nature; so that when the Clay is in this Condition, the Coulture cuts through it without breaking the Clots, which causes so little impression and alteration in its Body, that often-

times three Ploughings in fuch fort, is to no great ter Purpose, than one in Chalks, Gravels or Sands; this has been so often manifestly proved, that notwithstanding all the fallow Season has been imployed in Ploughings and cross Ploughings, and as frequently Harrowed; yet in a wet Summer I have known it out of the Farmer's Power to get this Ground into a fine Tilth, which, for all their dreffings of Dungs and Soot, has spoiled their Crops of Wheat, by the Black-bennet, Horsegould, and other Weeds growing amongst and cripling the Corn, which is the folcoccasion that Chalks and Sands are made use of, to alter its stiff and four Nature; and this it will effectually do. if the Chalk is good, timely drawed, enough put on, and rightly plowed in. By Droughts this Clay is hardened, and when ploughed in this Seafon, arises in great Clots, that will not yield to the Coulter's Cut, nor the Sharr's Break, but will rather suffer driving up together in clotty Heaps, than breaking into a small Body; and therefore it is, that the red Clay when under fuch an untoward texture of Body, is suffered to lie exposed to the Weather, till a good Shower of Rain falls that will flacken, foften and meliorate its hard Parts, and make it fit for Reduction by the Harrow-tynes, and then no time should be lost in taking this Advantage of the Clays Alteration, by Harrowing it thoroughly both ways: For, as I have generally observ'd, this Evil of a four Tilth is partly occasion'd by want of timely Ploughings and Harrowings according to our Maxim, Clays cannot be Ploughed too often, nor Gravels, Chalks and Sands too feldom. Therefore if a Wheat, Stubble Ground is to be got in Tilth for Peas against the next Spring, then ought the Stitches to be Ploughed up into Bouts at Allhollantide, and let lain all the Winter; then before you fow the

Peas, harrow it, and sow them in sour Thoroughs in the same Stitch in the Method it sirst lay, then after the Pea or Bean is sown, harrow it. Some will plough the Stitches into broad Lands at All-hollantide, and let lie all the Winter, and harrow the latter End of March, when they plough across the broad Land and sow in sour thorough Stitches. The other Sort of Culture requisite for red Clay may be the very same as is set down in the Culture of Loam.

Yellow Clays calls for much the fame Husban-

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creisted?

White Clays are different, because this Earth being of a shorter Nature than either red or yellow, will yield much sooner to the Operation of the Plough, therefore sewer Ploughings will here do more Service, because this Earth must not be too sine when sown, for the foregoing reasons: Formerly they sowed this Ground always in broad Lands, but now they sometimes (but seldom) sow it in Stitches for Wheat, but nothing else. The broad Lands hold Water more than a Stitch, and

the Sun can't dry it as it will a Stitch.

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Black Clays is a medium Soil between the white and red Clays, as to the ploughing Part, and therefore too feldom or too often Ploughings are equally a Fault here. This Earth lying mostly in Vales, is commonly ploughed with the Foot Plough only one way in broad Lands, by reason they lay it in half Acre Pieces, and that as high as they can, to avoid the Wet's pernicious Consequence; so that here they directly draw the Plough up and down by dividing the half Acre, and turning the Land two contrary ways, by which means a Henting or large Thorough is less in the middle.

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Of the Improvement of the Four CLAYS.

HE red Clays agree with nothing better than its two opposite Soils in Nature, the Chalks and the Sands, which, when truly mixt, will be brought into a very agreeable Condition, and yield both to the Power of the Weather. Ploughs and Harrows, much easier than it will in its own original Quality; and when this is rightly meliorated, it will likewise be fit to receive any benefit from Dreffings, much better, and quick+ er by far, than before; this Truth has obtained such an universal Reputation amongst all Farmers, that no good Husband will decline the opportunity of Chalking or Sanding his Clays, if it is in his conveniency and power, because without it, there is little hopes of good Crops of Peas or Beans especially, nor indeed of Oats or any other Corn. Many therefore are the fad Prospects of Lent Grain in the red, strong, clay Grounds, that have not been chalked in due time, which are often by this omission hardly worth their Money and carrying home, as may be too often feen about Barkham-Read, and where some of the worst Sort of Farmers trust to their Wheat Crops chiefly to pay their Rents (which this Sort of Land is most agreeable for) and forced often to buy Provender for their Horses of the better fort of Managers; because they can seldom come by plentiful Crops of Lent Grain or fowed Graffes as they otherways would, if they chalked their Clays; which would not only produce them these great Conveniences, but fave in a great dogree the excessive Charge of frequent Ploughings and Harrowings, because the Chalk or Sand will shorten and crumble the Clay before the Plough, to that degree as to make one Ploughing go as far as two or three without it. Therefore

Therefore I will here be particular in my Account of the manner how, and the Charge of drawing

Chalk to mix with the red Glay.

First then, Where the Chalk may be most commodiously drawn, is generally in the middle of ploughed Field: This is according to the late and present Practice, by the most judicious of our Farmers, and for so doing they assign this Reafon; because when the Chalk is drawn, a great Hole or Pit is evidently caused, and by being in the Center of the Field, the Plough, by traverting the Ground on all Sides, in time will bring down and drive the adjacent Earth into it, and so by degrees will fill it up in such a manner as to make the place little or nothing the worfe for either fowing or ploughing. In many places these Holes or Pits are made in an Angle, or on a grass Baulk of the Field, and then there is never any Chance of filling them up, otherways than by the great Trouble and Charge of bringing other Ground and casting it into them, as it is likely to be my case in a Field that I bought amongst some others about five Years ago, where I found a large, deep Pit made close to a Hedge, which had once like to have occasion'd me the lose of a Horse. where a Wood or Spring adjoyns to the Field, or near it, then this Situation may be most proper for the finking a Pit; or if it is made close to the Wood, it will have this Conveniency, that it will be easier senced against Cattles falling into; and Trees or other Wood will nevertheless get up in a little time, spontaneously from the Fibers of the adjacent Roots, and then grow up and run fatter than ordinary in this hollow Cavity of Ground, as is often feen in large Trees that grow in Dells and Holes of the Earth, where the Shade and Water have more power in the nourithment of all Vegetables than on plain Ground. Sometimes I have known

known the Men make more than one Pit in a Field. to find in a second better Chalk than they did in the first, where it presented it self good for a little way, till a Vein or Crust of the hurlucky, stony Sort prevented any further Penetration, which caused the second Attempt at some Distance, and answered the Owner's Satisfaction; for here appeared a fat, foft Chalk, with a yellow Coat or Covering and this is a certain Indication of its Goodness; where, out of this Pit, two adjoyning Fields were chalked just by my House. The Chalk Drawer finds a Wheel Rope-barrow, and all other Tackle, and also sinks the Pit for the price of eight Pence a Load, each Load containing twenty Wheelbarrows full, which they also for that Money spread all about the Field. Twenty five or thirty Load will well chalk an Acre of Ground, which by difcreer Ploughings will last twenty Years. (But here I mult frop my Pen to expose the Inconsiderateness and Folly of all those who by thinking to fave Charge, oblige the Chalk Drawers to put on fix Acres of Ground, no more Chalk than would thoroughly dress one: This in Proportion I have known done, where it could be afforded to full dress, This defective Management causes many fatal Mistakes, for when Ground is so chalked, the Plougher and Sower are apt to order their Matters as if the Land was full dreffed, which often deceives the Owner; for to cross-crop this Ground, or fow this Ground as if it had its due quantity of Chalk, is wrong, and will force it to complain in a little time of such hard Usage.) This Work must be sure to be done about Michaelmas or a Month after, that the Frosts may shatter and crumble the Chalk all the Winter as it lies on the Surface of the Earth; otherwise if drawn in Summer it will grow hard and petrefy by the Sun's great Heat and the Dryness of the Air; or if ploughed

into the Earth in Lumps, it will fo remain many Years: As a Farmer at North Church near me did. who, by mistake, drew his Chalk in the Spring, and ploughed it into the Ground in Lumps, that still remains so, tho' it is several Years since he had it dug. This Chalk when thoroughly reduced into a Powder by the Winter Frost, is called the best of Dressings; not as it is rich in it self, but as it sweetens, shortens and drys the Clay's Body, and so makes it fit to receive, and easier joyn and mix it self with other Manures, that may be thrown upon or ploughed into it; whereby it becomes a loofe Earth, and lets the Waters in the Winter and cold Springs thro' its Pores, which before used to hold them, and thereby chill'd and starv'd the Corn. When therefore this Chalk is fo reduced by the Weather, at Candlemas plough it with or without a Fin on the Sharr, very thin into the Ground, and by this one Ploughing may be fown Beans, either strained in the Thoroughs and afterwards harrowed down, or elfe by fowing the Beans all over the Field first, and then plough them in very shallow, or to fow them half under and half over, thorough and harrow well, and fo after this manner may Peas be fown. One of our best Farmers this last Spring, eat off his Turneps early, and chalked his Ground well; then the ginning of March he gave it one Ploughing in broad Lands, and harrowed in his Barley and footed it on the top. This is an excellent way to lose no time, and hereby the Grain has no less then three Dreffings. If Sands are to be laid on this red Clay, then twenty or thirty Cart Loads on an Acre can't be too much for this purpose, to shorten so tuff an Earth as some of the strongest Sort is.

The yellow Clays being somewhat more of the Loam's Nature, will admit of the same Improve-

ment by the Chalks, Sands and Dungs, as the red, and also the very same sowings of Corn.

The white Clays will be certainly much better'd if mix'd with a rich black Sand or other fertile Dreflings, and therefore where the first can't be had, the fecond perhaps may, fuch as Turfs pared off of Commons or Highways, and other Places, and reduced to a shortness in the following Manner. Take Turf or any other mouldy Substance, and make a square Bed of about a Foot thick; then take as much dry Chalk or Lime and make a fecond Bed of it, by laying it a Foot thick on the last; then lay as much Horse or other Dung on the Chalk or Lime for a third Bed; and so proceed one on another after this manner till you raise the Clamp or Heap as high as you can; this let lie for two Years at least, turning it several times by a careful Man, who knows how to mix it with Judgment, and in that space it will rot and be so incorporated as to make a very agreeable Dreffing for this white Clay: If each Manure is laid two or three Foot thick, it may answer to the same purpose, and therefore Discretion in this respect is the best Guide. But above all other single Dresfings, does the London Soot excel in this Soil, and forces on any Corn that is here fown to a wonder; format if the Soot is fown early, it will quickly bring on such a growth of Stalk as will shade its Roots against the Summer's Weather: Twenty Bushel will dress an Acre of this Soot, and about fifteen large Cart Loads of Dung will do for that quantity of Ground. Others reckon that folding first, and afterwards spreading it all over with Dung, is the compleatest Dretting of all, and will on this white Ground often produce forty Bushels of Wheat on an Acre.

The black Clays come next under my Confideration, which, as they are the richest of all others,

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stand in need of the least help: However as there is seldom any Soil to be mee with but will bear some Sort of improvement or other; this Earth, as rich as it is in its own Nature, will agree with rotten Horse, Cows, and Swines Dung; Pigeon, Hens, or Rabits Dung; Ashes or Soot: But as the two latter are feldom used, because they generally lie too distant for Wheel Carriage from London, that makes them too dear for the Vale Farmers purchasing; I shall drop that Article, and infift on some of the rest. Where this Soil is. there are commonly kept a Number of Horses, Cows, Hogs, Hens, and Pigeons; which being the Farmers own Produce, does almost all over the Vales, fuffice to manure their Land with the help of their large Folds of Sheep; and therefore they as carefully take care to clamp up their Yard Dungs as foon as the Scafon of the Year will permit them, in order to rot and shorten against the next Wheat or Barley Season; which it will much feoner do, when so thrown up in high particular Parcels, than if let lain all the time in their Yards as it was first made. This they carry on their Lands sometimes before they sow their Wheat or Barley, and plough it in, that it may against that time further rot, mix and incorporate it felf with the Ground. And when their Pigeons or Hens Dung is made use of, they sow it on the top, immediately after their Barley, which they expect the succeeding Rains will wash in: This Handdreffing is so efficacious on these black Clays, that I have known a Chedington Farmer send into Bedfordsbire, and give 10d. a Bushel for a Waggon Load, I believe fifteen or fixteen Miles off, where they keep the most Pigeons of any Country I believe in England: But this is seldom practifed by any but the first-rate Farmers, who are able to fend far and dear buy. For here their valt Crops

of Straws, and great Numbers of Cattle, make such Returns of Dung, as enables most of them to thorough-dress their own Grounds without other helps. So that in this Soil, Chalks, and Sands are altogether inconsistent with its Nature, because it being a pure, warm, marley Clay, shatters on the least Frost in a smaller or greater Degree.



CHAP. II.

Of the Nature, Culture, and Improvement of LOAMS.

The Nature of LOAMS.

OAM comprises all those sorts of Earths as are in each of themselves one individual Nature and Soil, because its true Species is a Compound of other Earths: Yet as such, whenever we see a true Loam, it may be justly called a general, and also an entire Earth; by reason it answers in the growth of all those Vegetables, which the feveral Soils in particular (of all which this has a Share) is peculiar or adapted to. As the Clays, for Wheat or Beans; the Gravels, for Barley; and the Sands or Chalks, for Peas, &c. From hence it is, that there are fo many names of Loams given to several Earths; as the clay Loams, gravelly Loams, stony Loams, fandy Loams, and chalky Loams; but these are no otherwise so, than as they have a true Mould mix'd with their feveral Species, which renders them abundantly more fruitious; infomuch that where they are not fo mix'd, the only and best way to bring each to a

true perfection of Soil, is to make a Melangery of Earths, by laying Sand or Chalk on a Clay, a Clay on a Chalk or Sand; and fo after this manner many Soils may be incorporated with each other, opposite in Nature, whereby they commence Loams, and then also become the best of Soils: It is indeed a rarefaction of Earths, which tho' poor in their original fingle Natures, yet by this artful, plural Operation, the Sands, Clays, Chalks, Gravels and stony Grounds are rendered of double Value; according to that Relation publish'd in my first Book, pag. 96. which by the favourable Opportunity of the near and cafy Situation of each ingredient Soil, may be brought to pass at a small Expence, either by carrying of so much Sand to the Clay, and the Clay as it is wanted to the Sand, which reciprocally amend each other; or else as we do here in common, improve our Clays, and Clay Loams, by digging Chalk and mixing them therewith. And it often happens that Sands and Chalks grow amongst Clays, by their several particular Lays or partitions in the Earth, as it is in Pitstone Common, and also in fome of my own Ground: And when by these or other Methods, Grounds that were not so before, are thus converted into Loams; this may then be faid to be marlefied, or at least brought into fuch a Condition as to be the nearest to Marle of all others, as are the Clayey Loams in particular, and so of the rest in proportion, as they more or less abound with that Quality, and then it is a univerfal Soil, as being capable to carry forward the Growth of all manner of Trees, Grain and Graffes, and all manner of bulbous and esculent Roots: In short, it is then an approved Soil for all forts of Vegetables both Foreign and Domestick; and therefore as it is thus in the general, it may be also made so in particular, on any extraordinary Occasion,

Occasion, by Alteration and Additions, a fit Receptacle for separate Plants or Flowers, by an Augmentation of Sand for Carots, Wood, Earths, or Tanner's Bark for Flowers, and so for any other, this gives an easy Admittance and Encou-This Mediocrity of Soil affords an Artist an Opportunity of trying Experiments: This encouraged me to venture on the fifteenth Day of, perhaps, the coldest wet May that ever was known, to fow Lucern Grass-feed, that fucceeded to my entire Wish: The particular Management of which in this Earth, I shall declare in the Account hereafter of Lucern Grass: Also in fine Loamy Ground in my Garden, I made feveral Experiments this Summer, in Clays, Sands or Gravels, which I could not well do before. have by feveral Trials on Loams, this Summer, found out what will improve an Acre of Ground to a high degree for the Charge of which I would gladly publish for the Benefit uf the World, if I could meet with reasonable Encouragement.) And where this Loamy Soil lies not too wet nor too dry, it will answer all manner of Dressings the soonest and best of any whatfoever; because its Body being a true, fine Mould of either a black or hazel Colour, which will not fuffer too loofe a texture of Parts, fo as to part with its Dreffings too foon, as the Sands do; nor yet will refuse a speedy Conjunction with them as the Clays do, but will mix, retain and return their fertile Assistance more regularly than any other Earth.

The Culture of LOAM.

THIS natural Soil, as it will bear almost all forts of Vegetables that shall be set or sowed in it, and therefore may be justly entituled a

Oat

general one; yet this, as well as all others, requires particular forts of Ploughings, Harrowings and Roleings, according to the preceding Utes it was under; and according to the Intention of Imployment this Ground is to be under in future; I will therefore suppose it to be last, a Wheat Stubble, and that delign'd for Peas the next Spring; then bout the Stitches up at Allbollantide with the Wheel Plough, and let it lie all Winter: Then harrow just before you fow the Peas, and fow them in the Stitch the same way as it lay at first, in four Thoroughs, and harrow it well down. which gives leave to the Pea, casier to make its way out of the Ground: And this Method is fo much better than fowing them in broad Lands, as they lie drier in the cold, wet Spring.

Wheat Stubble for Oats.

Barley Stubble for Peas. Bout it up at Allbollantide, and the latter end of February or beginning of March, harrow the Bouts down, and fow the Peas or Beans in four Thorough Stitches the fame way as the Stitch lay at first.

Barley Stubble for Oats. Plough it up as the broad Lands go, the latter end of February, harrow it, and fow the Oats next way, then harrow

both ways as need requires.

Oat Stubble for Turneps. In January plough it in broad Lands the same way as they were before; then about the middle of March comb it overthwart. In April or May harrow it down and comb it again; then about Midsummer harrow it down and plough it across into broad Lands, and sow it with Turneps. This combing is also called Hacking, and are synonymous Names for one and the same Operation: This fort of ploughing sweetens the Ground better than bouting, because it breaks all the Earth, and therefore may be called clean Ploughing.

is to be the beginning of April in broad Lands the same way they lay; then the beginning of June harrow it, and bout it overthwart; then in July bout it again the same way. After Harvest bout it down, harrow it plain, and dung it ready for

fowing of Wheat.

A Pea Stubble in Stitches to lie fallow——— In April four Thorough it with the Wheat Plough as the Stitches go, then in June harrow it down and bout it the same way; in July hack it overthwart, or bout it up across; then after Harvest thorough it down, or bout it down; if it be full of Weeds, the last way is best; then harrow and dung it, and it is fit to sow Wheat.

Pea Stubble for Turneps. Four Thorough it up first as the Stitches go, in January, and harrow it at leisure; in March bout it down, then comb it across in May, and at Midsummer dung it, plough it overthwart in broad Lands, harrow it,

and fow it with Turneps

The Melioration and Improvements of LOAMS.

manner of Dangs, Soot, Ashes, Horn-shavings, Hoofs-hair of Hogs, and other Beasts; Rags, Mud, Chalk, &c. are proper Improvements for this Earth, but are not all to be put on at one and the same time. In the Vale they put on their Horse, Cow, and Hog Dung on their sallow Ground for Wheat, the middle of Summer, which I think has more ill Husbandry in it than good; because the Sun, Air, and Rain by consequence must dry and wash away the goodness thereof, before the Wheat can have a Tryal of its Benefit; but if you were to ask some of them as I have done ---- why do you lay on your Dung

so foon, for the Sun and Air to carry away its Goodness? their Answer will be in the Negative, and tell you they lose it not, because the Rain washes the Goodness into the Ground, and they'll have it that way, and the Sun will not hurt it, because it will only dry into the Litter or Straw with which it is mix'd; but this we Chiltern Men feldom do; on the contrary, we often bring our Dungs out of the Yard into the Field, and there make a Clamp, cover it with some Turf or Mould, and let it lie and rot till about Michaelmas, and then lay and spread it on our Ground just before we fow the Wheat or Turneps; by which the Dung's Quintessence is secured. But if sooted or Ashed, it should be fown on about Candlemas or a Formight after; for about this Time the great Snows are generally over; which with the sharp Rains prove often fatal to these Hand-dreffings, by foaking and washing them too fast and too foon into the Ground. But Pigeons, Hens and Rabbit Dung should be sown in January on the Wheat, because they are not so soon wash'd in, but rather require some Time for their Dissolution. And if Lime is made use of as Dreffing for Wheat, it must be slack'd, and then immediately fown hot on the last Ploughing, all over the Ground, about 25 or 30 Bushels on an Acre; this should lie 6 or 10 Days, and then Plough and fow the Wheat in Stitches as at other times, which will secure it against very cold, wet Weather in Winter and Spring, and make it look of a deep dark Green, when the Neighbours will dye and look yellow by the chill of Frosts, Cold and Wet. Another fort of Melioration and enriching the Ground, is, by Foreign Graffes, most of which the Loam best agrees with, beyond all c-In this Land, Clover, Trefoyl, Luther Soils. cern and Ray-grass will vastly thrive; and by being

ing fed or mowed, for one or two Years or more, will be part of a Dreffing, and make all Dungs and other Manures go a great deal further. A judicious old Farmer by me, brings his Dungs and lays them on Clover about a handful high; this, when spread, he Ploughs in as shallow as possible with the Clover, and lets lie a Week or more, and then harrows in his Wheat: This is an excellent way to enrich the Loams, lets in the Water below the Roots, and so preserves the Wheat from being chill'd and kill'd by the Dung and Clover, hollowing and heating the Ground, which may be accounted two feveral Dreffings in one; And as foon as the Wheat is off, plough it up twice, get it into a fine Tilth, and fow Rye in September for Food for the Sheep early in the Spring, or else for Lent Grain the next Season. Another way is to plough in Clover Knee-high; this is done to fave Dung, and is called Half-dreffing, because it will hold good for one or two Years in the Ground independently of other Affistance. Another way is to fow Buck or French Wheat in May, and Plough it in about three Weeks before you harrow the common Wheat in; this is called a whole Dreffing, and will endure by the Grounds retaining its goodness three Years.

N. B. The ingenious Mr. Benson tells me than fome Bushes should be fixed in the Wheel Plough, just before the Sharr Point, which will drive down the Buck Wheat flat, and so make it fitter for the Plough-work, or turning it into the Ground,

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CHAP. III.

The Nature, Culture and Improvements of GRAVELS

The Nature of GRAVELS.

RAVELS. This Earth has variety of Natures according as they severally abound with diversities of Earths or Stones. There are the sharp or stony Gravels, loamy Gravels, clay Gravels, sandy Gravels. On all which I shall distinctly make my Remarks, as they have occurred to my Knowledge; having all but the sandy Sort

more or less in my own Fields.

Sharp Gravels. This Earth is composed of small, sharp Stones, mix'd with some Mould, which is better or worse, as the same is in a less or greater Proportion: If more Stone than Mould, then it is so much the worse, because the Soil is fo much the loofer; if almost all Stones, as some is, it is so much the worse still, as some is near the top of Dunstable Downs, and in many other Places in this County, not worth above 1 s. or 25. 6d. an Acre; because the Waters runs so fwiftly through them, that washes the Dungs, or other Dreffings away below their Roots, fo that the Fibers of Corn or Trees, foon become hungry, pine, and oftentimes perish for want of the Dung's nourithing Sublistance; that in Clays and Loams have firm and holding Bottoms, and will lie two or three Years to visibility. There is alfo another fort of hungry Gravol, that is made up chiefly of the round, blew Pebbles; this of all othere is reckoned the worst, and of the most cormoranmorantine Nature; this is such a Devourer of Dung and other Dressings, that in many Places. they utterly refuse to Plough or Sow it, but let it run with what poor Grass, Nature in a small degree throws up. Of this last fort there are great Quantities about two Miles from me, which might be vastly improved, did not the Tenants Obstinacy prove a Barr to his Interest. lately concerned at an Appraisement of a Crop of feveral forts of Corn that grew on fuch fort of Ground, as these two are. Some of the Wheat at Harvest was dear in my Judgment of 20 s. an Acre, notwithstanding it was dress'd, which help'd to break the Tenant, and obliged the Landlord, who was but in indifferent Circumstances himself, to take it into his own Hands: I told him, to improve it to a good Account, was to dress it with French Wheat, but I cannot understand my Advice had any more Effect, than if I had told a passant Traveller of a Mine in Iudia.

Loamy Gravels are those of a better fort than the former, for under these Terms as much or a greater Quantity of Mould is supposed to be, than small Stones; this I may justly term a fertile Soil if rightly managed, because here is some hold for the Roots of Trees, Corn, or Grass to receive Nourishment from: and as all Gravels are of a Kerning, or Corn-yielding Nature when supplied with Heaven's propitious Influences, and Man's due Assistance: I have known this Ground to return above eight Quarters of Barley on an Acre, and other Grain proportionable. Most Gravels are of a hot, dry, loofe, hungry and binding Nature, which opposite Terms tho' feemingly inconsistent, yet carry experimental Truths with them; loofe, dry and hot I say, for that this compound Ground of Stones and Mould, cannot by their make and texture so unite, as to be a close Body, by reason

of the various shapes and bigness of the many Stones with which the Mould is conjoyned, as a fmall one amongst two great ones, or angled ones among globular; and so the rest are of so many different Forms, that must cause a hollowness and disjunction of Parts with the Earth, notwithstanding the Moulds envelloping many of their irregular Sides; from hence it is, that the Rains and Snows so easily make their Passage through the Cavities of this Ground, to the great Prejudice of the Trees, Corn, or Grass that grow therein. Hangry; because the Dungs and Dressings are so readily carried off, and wash'd away past Recovery; that without more than common supply of Mould and Dung, this will (I am of Opinion) prey on its own Mould Substance, and so grow leaner and more barren, by fowing its most vital Part the Mould. This leads me to take notice of the Notion of some, that think these small Stones breed and are nourished by the Sun, Air, Rain and Mould; and indeed it feemingly carries a probability with it, for it is surprizing to find hardly any diminution in a small Field, where vast Quantities have been carried off to mend the High-ways: If so, then by consequence the Mould administers great Part of their Sustenance, which perhaps may be one Reason why these Gravels are fo volacious. I know a great Gentleman that now wants several of the great Stones that we call growing Stones, composed of valt Numbers of small Pebbles that lie in little Cells or Holes; his Use for them is to put them down in his Grounds for lasting boundary Marks for the several Parithes, that triennially make a Progression, and cut deep and large Marks in his great Trees for their future Knowledge, how far their Parish Limits extend, to the Damage of the faid Trees, which he hopes to prevent by placing these fort of growing

ing and ever durable Stones at the proper Places. And possibly, nay likely, they may deserve those Names, though imperceptible to our Eyes or Memory. Binding; this needs no other Proof than the many Mistortunes accruing by its hard and crusty Surface, so made by the Weights and Bashings of the heavy Rains; and more or less so, as they fooner or later succeed the Ploughings and Sowings; for if they come before this fort of Earth is settled by Time, it will harden it the more, and fometimes cause it to run as it were into a Pan-cake spread, particularly on Descents, and bind the Wheat, Peas or Barley in fo fast on all Sides, that they are often ruined, as not being able to make their growing Progress, for want of Room in the Earth, for the Swell and Multiplicity of their feveral Stalks; and this I take chiefly to be occasioned by the Rains washing the Mould on the Stones, which naturally joyns and cements their hard Bodies to the Moulds foft, plastick Nature, and thereby becomes one close and obdurate Ground. regres at the toll it die vallidadere

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A Field near me had a gravelly, pebbly Bottom, covered by a black, light Mould of about four or fix Inches deep, this was a Lay of natural Grass about twelve Years ago, since which it has almost constantly been under the Plough. This fort of Ground is naturally called a dying Ground from its great Lightness, because its Earth is very hollow and its Bottom retains no Wet; so that the it was well ploughed, well dressed and a sourishing Crop of Wheat with large Ears, yet it mostly died, and the Weeds, as the May-seed, Horse-Gold, Poppy, and wild Oat got up to that degree this wet Summer, 1732, that it was hardly worth

worth Reaping; and indeed it is the Nature of most Grounds, Loams, and Clays especially, to produce the wild Oat if fowed too constantly and too long with Corn. The Remedy of this is, to give it constantly its due Course of Fallowings, whereby it may enjoy a thorough Sweetness; and let the Dreffing be every Wheat Year or Barley Season, a Manure accordingly: In the Wheat Year the Fold is certainly the greatest Friend to this fort of Ground of all others, because it will tread this light Earth, and bring it under a closer Texture of Body, than otherways by its own Nature it would be; and therefore far better for the Crop of Wheat that is to grow in it, and more discouraging to all manner of Weeds and Worms that will be fure to infect this light Ground, especially in wet Summers, if care is not made use of to prevent their ill Consequences; besides, the Fold by the pressure of the Sheeps Feet and Bodies enables this hollow Land to fustain and hold the Roots of the Wheat fast, that the Winds and Rain cant so easily force it down, which they will certainly do when that is ploughed often and fowed in a fine dufty Tilth, and this more furely if manured with Dungs of Horses, Cows and Swine, that encrease the Grounds Lightness and keeps it hollow afterwards. It is therefore that this loofe Earth and dry Bottom should be ploughed and fowed in a wettish Time, for that contributes vastly to its Binding, and causes it to remain so during the next Winter and Summer that the Wheat is to grow in it. As to Barley and other Scalons at the Spring of the Year, the Cafe is fomewhat altered, by reason the wets that generally fall then, help to the fastning of this Ground; that may therefore be ploughed and fowed earlier than Clays in order to enjoy the fame; besides, the Lent Grain has only about

half the time of the Wheat to be in this Earth. which gives not that Opportunity to Weeds for their Predominancy as the long Wheat Seafon does: But fuch Ground as this is best laid down with artificial Grass, in order to obtain a natural Sward, which this Earth will naturally run into, and much quicker if encouraged by fowing the Seeds of fine Upland Meadow Hay amongst the Clover, Trefoyl or Ray-Grass. The Occupier of this Field, notwithstanding he has often ploughed and fowed it, was ignorant of the true Nature of this Soil that lay contiguous to three other Fields belonging to the same Person, as believing it to be of much the same nature as the rest, and theretore gave it the same Usage; but herein he remained mistaken, till a Person of better Judgment than himself convinced him of his Error. which plainly shews the Excellency of this Knowledge in the Nature of Earths; and as it is in the animal Occonomy, that there is no right Application of a Remedy without the Disease is first known; so it is here that every Farmer ought to make it his primary Study to inform himself of the several forts of Ground that often belong to his Farm, and that befices his own Judgment to consult his Neighbours, who as Natives on the Place may be able to let him know more than the Dictates of his own Reason, that formerly were more remote from the same.

Clay Gravels, or Clay, Loamy Gravels happen to be part of the Ground of several Farms in this Country; their Nature varies but little from the gravelly Loams, but wherever the red Clay is part of the Soil, there will be occasion for more Ploughings, and warmer Dressings than in any on ther fort of Gravel.

Sandy Gravels are of so lose a Nature, that they are sooner brought in Order than any of the

rest, and will bear very good Crops of Corn, if duly assisted with Manure; and that much forwarder than the other Gravels, whereby Peas, and Turneps may be had in one and the same Year.

The Culture of GRAVELS.

SHARP, or Loamy Gravels require much the same fort of Ploughing and Harrowing, as also the same fort of Dressing; these as well as the sandy Sort are in the number of the light, sweet Soils, and are all of them so different from Clay, that too much Ploughing here will wear out the Ground, as too little in that Soil will not bring it into a bearing Condition: A good Season of fair Weather is more than ordinarily requisite in these Soils to prevent its binding; and also shallow Ploughings when Grain is sowed on broad Lands on the same, otherwise it's in great Danger of being hindered getting thro.

The Clay Gravels are still more binding, and

therefore must have more Ploughings.

The Improvements of GRAVELS.

In need of being brought into a Condition, as will strictly answer this Title; to find out which, in a true beneficial Manner, many have been the Attempts, and various the Esforts of Farmers; which as it is a matter of great Consequence, I shall here mention several Particulars. First then, I knew one, whose Farm of about 60 l. a Year was chiefly a sharp and loamy Gravel, but not of the blew Pebbly sort; this Man carried from his Farm just by me several Waggon Loads of Peas, Thetches, Chass and other Grain to London, in order to load back again with Coney-clippings,

Horn-shavings, Soot, &c. This Dressing did not the first Year do quite so much good as afterwards. It happened by the Landlord's Difgust, that the Man after laying out great Sums on this fort of Dreffings, was forced off his Farm and succeeded by another good Husband-man, who directly enjoyed the former's Expence of Dreffing; for this fort of Manure is not casily devoured by the Gravels, nor wash'd away, as being of a tuff, spungy Nature; fo that it will lie and hollow the Ground. retain the Wets, and so keep the Ground moist and warm for several Years. To this was join'd another Expence, and he was the first Man in these Parts that chalked Gravels to the wonder of the other Farmers about him. However, this answered its full End in all Respects, for it absolutely hindered the Gravels from being closed and bound by the Rains or Snows, added a more learny Part to the stony Part, made it Plough much better, and kept it in a pure, fweet Condition, that has for several Years bore extraordinary good Crops of all forts of Grain that grow thereon: But the use of these fort of light Dreffings from London are much more laid aside, and less regarded than formerly, by reason of the great Numbers of Sheep that are kept and folded on these Gravels and other Grounds, that are found far cheaper, and I am certain, are quicker and better Dreffings. Some will in lieu hercof, lay on, and Plough in their long Horse Litter, allowing it to answer best in Gravels, as being of the Horn-shavings Nature, tuff and spungy. Others will lay on Mud, or Highway Stuff, which indeed has vastly enriched this fort of Ground, especially if it is a true Mud, free from Sand. For something must be done to these Gravels by way of Dreffing, or elfe nothing but Poverty will fucceed in this hungry Soil; and to fay the truth, if any Ground stands in need of double Dresling, this docs

does; and then there is none will pay better, by returning the best of Crops from it's kerning Quality. But the Horse Litter will answer very well another way, that is, by laying it on the top of the Stitches or broad Lands, as foon as the Wheat is fown (for then it will grow thorough it.) This is an excellent way to Plough some in; and afterwards lay some all over on the Top; for as Gravels in general are a light, loose Ground, this Cover will preserve it from shoaling in the frosty Scasons; and before next Harvest it is a Rarity if it is not hauled and pulled into the Ground by the Worm; or else devoured by the voracious Nature of the Gravel, which makes Potatoes, and all of the Haulm Tribe, to be fo good Dreffing for this Soil --- It is strange at first Sight, to see great Crops of Wheat and other Corn, grow (feemingly) amongst vast Quantities of Stones, that in this Country are common to be seen, where hardly any Mould can be discern'd. But this is accounted for by the Owner very plainly, when he tells the Querift, that he would not give one Load of Stones for several Loads of Dung, because these Stones have several advantagious Properties in them: First, as they are of a cold. moist Nature, they preserve the Roots of Grain from being dryed and scorched by the great Heats: Secondly, they help to keep in the Sal Terra, Vapour or Breath of the Earth, which by their Cover is obliged to perspire more slowly; nor is it so readily exhausted by the Sun's attraction, and therefore administers its fertile Quality more regularly and more abundantly to the Vegetables that grow amongst them, in that little Mould there is, which the small Fibres of the Roots will be fure to search for and find out, and join, altho' but in a very small Quantity, and that lodged amongst the several Crannics and Cavities of the Stones. G 2 And

And here I have further to fay of Stones; that it is the Opinion of some, they never grow after they are out of their native Bed in the Earth; and this, they fay, is proved in Pavements which never encrease: That their Consumption is not perceived in some Fields, because as they grow large in the under Earth, the Plough finds them and turns them up, and so supplies the Room of them carried away. That the large Guernsey Pebbles, weighing half a Hundred, more or less, that are in the London Pavements, do certainly grow on the Sea Shore; but whether the Salt Water, the Earth they lie in, or the Sun and Air contributes most to it, I can't determine: But these fort of Stones have in my slender Opinion a greater Opportunity of a quick Growth than most, or any others, that I know of, from the porous Parts of their brown Skins or Cover, by which they feem to take in the Salts that the Sea leaves.

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CHAP. IV.

The Nature, Culture, and Improvement of CHALKS.

The Nature of CHALK.

HALK is a most useful Earth, and serves for many Uses, besides those in Agriculture; as in making of Lime, Whiteing, &c. and shews it self in great Quantities in the Counties of Hert-ford, Bucks, Kent and Surrey, where it is a most agreeable Soil for Corn and several sorts of Grasses, according to its peculiar Nature; as the dry and lean Chalk, the hurlucky or stony Chalk, and the

the marle Chalk: The dry lean Chalk will bear Wheat, Rye, Peas and Thetches very good, if it is rightly dreffed, and the Scason of the Year is favourable; but Barley will not do so well here as the rest, not but it will grow in this Earth, and sometimes be a very good Crop, but it is not so natural, nor fo fure in its Returns. The fat fort of Chalk ferves as Manure for Clays, Gravels and Loams, to reduce them into a sweet, hollow Nature, which obliges all good Husbands where their Conveniency will admit of it, to get it at a great Charge and lay it on these fort of Lands. The fat, marle, clayey Chalk is the best of all Chalks; this does not devour Dreffings very haftily, but will with a little Manure produce vast Crops of Grain, as well as Clover Grass, which the lean Sort can't be faid to do. It is this fort that is fought after by the Farmer when he digs Chalk for manuring his other Earths; and when it appears with a yellow Coat without fide, he then concludes he has got into a Vein of fat, mellow Chalk that is of great Value.

The Culture of CHALK.

CHALKY Ground to lie Fallow. The first time plough it up the latter End of May in broad Lands; the begining of July plough it across in broad Lands; then harrow it after Harvest, and sow it with Wheat or Rye in Stitches. Chalk admits of the shallowest Ploughings of any, particularly the dry and stony Chalks. But in the clay Chalks the Plough may go as deep again.

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The Culture of CHALK.

HIS Soil, the dry, lean fort especially, being of a thort, crumbling Nature, is eafily got into a Tilth, by reason on this Ground Weeds grow the least of all others whatsoever; and thertore two Ploughings in this fort, will do as much Service as four will in red Clays, which makes the Country-man fay, a Fallow and a Stirree is enough for a Chalk; for here is not a Conveniency for Bouting and four Thoroughs, &c. as in other Lands, which obliges the Plough-man to turn it each Time of ploughing, if he can, the reverse cross way of the last Operation, and generally into broad Lands, which formerly was altogether the Method, but latterly some sow their Wheat in Stiches. And let what Grain soever be fowed in these Chalks, it ought to be sown in wettish Weather, because it is then made something clotty and rough, which best hinders the Growth of their only and most pernicious Weed the Poppy; and also by its binding Quality caused by the Wets, it is better fastned, and will stand the Frosts and Colds much better: Whereas a fine Tilth in this Soil is altogether to be rejected; for as the Chalks are naturally light and loofe in themselves, they are made fo much the more fo by being fine, and then the Wheat and other Grain will fall before the high Winds, and fometimes be almost spoiled. The marly Clay fort indeed will give more room for the Plough, because it will admit of a greater Depth; and the loamy Chalks more room than the last. However, be it ploughed in broad Lands or Stitches, rolling is very necessary, especially in the last, where it is used by being drawn long and cross ways, in order to fasten and keep the Ground firm and close to the Roots

of the Grain; and also the better to preserve them from the violent Heats and Droughts in Summer. which broad Lands particularly are more capable of doing then Stitches, as they lie flatter, lower and more folid; yet there is this good property in a Stitch, that the Horses drawing double, and thereby treading hard on the fleevings of the Stitch, causes the Ground to lie flat in the clotty Condition it is first turn'd up in; and this is the main reason why some sow their Wheat in these chalky Stitches, to prevent the Poppies growth. by throwing up one hard, clotty Lay of Earth upon the other, that by degrees makes up the whole Stitch; and this is performed by two Ploughs in the best manner, the Foot Plough to make the Sleevings, and the Wheat Plough the Hentings; so that both work here at one and the same time.

To have Peas after Wheat or Barley. They give the Chalk but one Ploughing, by fowing Peas at or a little after Christmas in a four thorough Stitch.

The Improvement of CHALK.

THE Chalks in general agree best with, and makes the best Returns under that incomparable Dressing of the Fold, and that for several Reasons: First, it is a moist, fat Dressing, which with very little dissiculty communicates its sertile, saline, oleagenous Properties, to this dry, light and lean Earth; also by the tread of the Sheep, and especially after the Corn is sowed by solding thereon: This Earth becomes saster and sirmer, and so made more sit to hold the Seed, and presserve it against the Droughts and Frosts, which are the two arch Enemies very often to this Soil, and this may be done in the Winter upon the Chalks

Chalks dry and warm Body, in order to prevent its being washed or blown away from the Roots of the Corn: Secondly, next to the Fold, Soot claims the Preference; this being a light Body, full of fiery, fulphurous Parts does great Service to the Chalk when laid on about Candlemas, 20 Bushels on an Acre, and being washed in by the fucceeding Rains, forces and brings on fuch a quick Head as best defends it from the Severities of a cold Spring, and also from the violent Heats and fcorching Droughts in the Summer following. Therefore some will dress and meliorate this Chalk and the chalky Loams with Rags chop'd small in the first Place, and then fown out of a Seed Cot all over the Ground, about five Hundred Weight on an Acre the beginning of June, and then ploughed in broad Lands, which will warm and enrich the Earth against the Wheat Season, and afterwards receive and hold the Rains fo as to keep the Roots of the Corn moist in this dry Soil, and by the Heat of their Woolly Substance, help it very much against the Rigour of Frosts and cold Winds. A Taylor that had some chalky Ground. chop'd his woollen Rags, and watered them at Winter with Chamber-lye, and in the Spring fowed them on this white Land, then directly ploughed them in, and harrowed his Barley on the fame; this caused so great a Crop that was laid flat at Harvest. Long Horse Litter therefore in my Opinion must be a good top Dressing on the Stitches of Chalks, especially to prevent the Frosts shoaling and crumbling this Earth from the Roots of the Corn, and also the wash and bash of Rains. and the violence of the Winter Winds, which are all fatal to this Ground; infomuch, that People have been forced to plough their Wheat white Ground again in the Spring, and fow it with Lent Grain, because their Wheat was destroyed in this loofe,

loofe, light Soil by the Frost, Rain and Wind. This obliges the Farmer to double-dress this Soil; that he may get Cover for it directly, which is a great Security against these Disasters. of these Chalks that I call of the hurlucky or stony Nature, will bear, when thorough dress'd, good Wheat, Rye, Barley, Peas, Thetches and Tills, but where this Dreffing is wanting, they commonly fow for Lent Grain. Tills and Thetches, these both will grow and flourish in the poorest Chalks, as may annually be seen under Dunfable Downs, where these two are often sown as mongst Oats, as Bullimon, as being furer in their Returns by far than Peas, and the Sheep value their Haulm next to Hay, and will generally be very greedy of it, and eat it clean up; and the Thetches will fatten Swine, if given to them as they run about, and not in a Sty. The Tills also are good for Horses, Cows, &c. Several Farmers fow these Thetches and Tills for their Horses, which they mow green and give them in Racks. On this chalky Soil will Trefoyl and St. Foyn flourish to great Profit; the Trefoyl is of great Service in this Ground for fattening of Sheep and Lambs, and also for milch Cows; it is a happy Opportunity that Tenants enjoy by this Grass, because Clover will not answer in these dry and lean Chalks. Here also St. Foyn, that most ex-cellent Grass, will flourish in the dryest Summer by means of its carroty Root, that runs fo great a depth into the Ground, as to draw in a moisture to its Assistance, when most other Grasses are burnt up. Rye grows well in the poor Chalks, which by being eat by the Sheep, and folding them thereon, all or part of the Winter, thickens it mightily against the next Growth and is a great Improvement. The Rye is fown in August, on a sweet Tilth. This chalky Ground in general excells

cells all others in producing the fine, white Barley, which for its colour and thin Skin, is preferred to all for making the best pale Malt, as I have said before. It is this Earth that is the Malsters.



CHAP. V.

The Nature, Culture, and Improvements of SANDS,

The Nature of SANDS.

CANDS either white, yellow or red, or black, are the loofest and sweetest of all Earths, and of great Service in many Cases in Agriculture and otherways: The first good Property answers in mixing them with the red Clays, which so alters the Clays renacious Constitution, as to render it another Soil, even a Loam; and when so, it is then brought out of a sterile, barren Condition into one of the most propitious Soils that is, by incorporating the globular, hot, dry Particles of the Sand, with the long, stringy, binding Texture, and cold Parts of the Clay. In its felf, it is but a barren Soil. and the Crops of any thing lowed in it, will be fooner scorched, dried and burnt up, than in any other fort of Earth. This is of to hot and dry a Nature, as to forward the Growth of any Vegetable sooner than any Earth besides, if Rains happen in due Scalon; and therefore gives the Owner full leave to have two or three Crops a Year, under good Dreffings. It brings forth the fweetest of Turneps and Carots, and founder gonerally than any other Soil doce; for here the Worm

Worm meets not with that secure Lodgment, as Clays, Gravels and Loams afford them. It is contrary to their cold, flimy Natures, and is not only an Enemy to them, but to all manner of Weeds whatfoever. This Soil is cheaply and quickly got into a Tilth; and here may be had Peas, Thetches, Potatoes, Wheat, Barley and Oats, but the last three I cannot greatly commend in this Soil, unless in a wet Summer. Rabits breed much in this dry Earth, and turn to great Profit, and therefore is often made use of for Warrens: This will bring forth Lucern Grass very well, and seems to be natural for this and St. Foyn, whose tender Natures require a warm and dry Sort. The best of blew and white Peas come off this Ground; but black Sands surpass all others in Fertility, which, according to Report, is the reason of those vast Crops they have in Flanders; where in this short, loofe Ground, the Ploughman drives one Horfe, who alone is able to plough this Soil.

The Culture of a SAND.

HIS Ground is commonly situated low, and lies in some Places very wet and some dry, they both demand the same Culture by ploughing them into broad Lands, and across each time with the Foot Plough, if it be not ridged up high, but if it is, then they plough it always one way.

The Improvements of SAND.

THIS Soil is generally full deep, and therefore affects any manner of Dungs which may be buried here to rot, as may Rags, Concy-clippings, Horn-shavings, Oxes Hoofs cut small; but Lime, Chalk or Soot is not here so agreeable as in some other Grounds; not but Soot is a most excellent

cellent Manure, even for all forts of Land whatfovever, by its light, sulphurous, adhesive Nature, and therefore will do Service here, if Rains
succeed in due time; otherwise it will potently
encrease the Heat and Drought of this Soil to the
Grain's Damage: This loose, sweet Earth gives
the Farmer Opportunity of having two or three
Crops a Year, by its easy Ploughings that presently bring it into a Tilth.



CHAP. VI.

The Nature and Improvement of the OAK.

THE Oak, of all other Trees, claims the priority of Regard in this Nation for its many transcendent Uses; but above all for Shipbuilding, which indeed are the Walls and chief Fortifications of this Kingdom. And however remiss and indolent we have been of late Years in cutting down, and not planting again, this most excellent Timber, as may be feen in Wing Park, and many other Places with an Eye of Pity; yet of late, through (I prefume) the feveral printed Items, published by Men under a Concern for their Countrys good; some of our discerning, able Men have received fuch Convictions, as have provoked them to fow and fet Acorns, or plant young Oaks in many Acres of Ground. A fingular Example of which in these Parts, is the most noble Duke of Bridgwater, who is certainly one of the greatest Conservators of Wood in this Kingdom.

The Oak agrees with almost all forts of Soils, but grows best in the richest Grounds, and is the

longest

longest liv'd Tree of all others; yet is its Date determined shorter or longer, as the Nature of the Earth is wherein it grows: In Clays it is more tedious, as its Roots obtain their Food with more difficulty; but then its Wood is most serviceable.

In fandy, chalky or gravelly Grounds, they grow much sooner, from the light, loose texture of these Earths, that gives an easy progress to the Oak's Roots, which brings on its Maturity fooner than the stiff, cold Clays will, and therefore they are never so large in this loose Soil, as in the more close, but then its Grain is clearer and smoother. This Tree obtains a firmer Footing in the Ground generally than any else; for it's rarely found that an Oak is without a deep tap Root, which in a rich Soil has been known in thirty Years to get a Foot diameter in Body, and when it is arrived to this Bulk, it then thrives much fafter, by reason of its large Body and Head, which now is capable of being shaken by the high Winds. that strain its Roots and let in the Benefits of the several forts of Weather; and therefore it is a fort of Rapine to destroy such young thriving Trees, that get at thirty or forty Years of Age, more in one Year, than they did when younger in several; especially at first they took Root towards the top of the Ground; for in my Observations I feldom ever faw a thriving Oak, whose Roots in the beginning took deep in the Earth; and therefore I think my felf more than ordinarily obliged to enter a Caveat in this Place, against the fatal, but too common, Practice of Planting, Sowing and Setting too deep, which will furely retard the Oak's Growth, and hinder its Magnitude: Whereas this, above all other Trees, ought to enjoy all the propitious Benefits that can be given

it, on account at best, of its tedious Growth, before it is rightly fit for Ship or other Buildings.

I have two forts of Oaks growing in my Grounds, which I call the short, spreading Oak, and the tall, upright, taper Oak, both which grow very well, it planted at first high enough, whereby their Roots may be obliged to feek their Food from the Top and best Part of the Ground: And here if any is so curious to prefer Plantations of one fort before the other, it is only fowing or fetting the largest Acorns of the different Trees; or if there are Walks or Rows to be made of them, the distance in this respect must be allowed accordingly; for the spread Oak requires as well fifty or fixty Foot afunder, as the other forty or fifty; and this distance will very well admit of the Growth of Underwood, that may be fell'd at every twelve Years End to great Profit, especially if it be Sallow or Ash, these two being the most advantageous of all others for their quick Growth, and the many Uses their straight Poles may be converted to, as hereafter I shall observe when I write of Underwood: Or if the Sallow alone is planted altogether with the Oak, it will be found most agreeable, because this Root runs not very deep nor broad, which will give leave to the Oak to make his flow Pace with little Interruption from the quick Growth of this most profitable Underwood: And therefore it is, that neither Beech, Oak, or any other standard Tree, should be permitted to grow in Company with the Oak, because of the great Prejudice that may in time ensue from their quicker mounting into the Air; and then it's likely the Oak will fuffer in its low Head, by the Drip of their taller ones; which Majority where-ever it happens, they will be fure to maintain, from the great Advantages they enjoy, by the Sun, Air, Rain and Dews, that ever will

will be most propitious to the highest Trees, by the free and uninterrupted Extention they meet with, to receive the Sun's attraction and nourishing Heats on all Sides of their spreading Heads: That then will cause them to perspire, and sweat out their crude and noxious Juices in the Day time, which they imbibe and drink in by Nights, through the many Pores of their spungy Barks, Leaves, and Fruit; and it is thereby that Trees subsist in a true Regimen of Health and Prosperity, while the lowheaded, underline one, grows mosfy, scabby, knotty and stunted, for want of a free Enjoyment of those salubrious Benefits. And this grand Conveniency not only belongs to the Oak, but indeed all forts of Trees wharfoever; And it is here that the Vegetable is obliged to receive and take in by Nights and foggy Days, those pestiferous and insanous Particles of the Air, which are great Enemies of their Life, and would likely and in their Destruction, were it not for a due Evacuation of the same, by a free Perspiration through the several Parts of their different Bodies, by the Sun's most powerful Influences; that by degrees brings on such a Rarefaction of the Sap and Juices, as to cause them vigorously to discharge their phlegmatick Crudities, that the Tree alternately receives.

In order then to raise great Numbers of Oaks in the best Manner; I shall observe that in a plentiful Mast Year, due Care should be taken, about the beginning of November, or sooner, to collect and get the largest and soundest Acorns (for the biggest of all Seeds are best) when they fall from the Tree through Ripeness, for the sull Maturity of them is a main thing; when enough are gathered, the disposal of them is next to be considered. If conveniency allows them to be sown at the best time of all, they ought to be got into the Ground

as foon as possible, upon the finest and well dresfed mellow Ground, that has been under a preparation for this Purpose, the whole Summer, if not the Winter too before.

Various are the ways that have been practifed in this Work, according to the Ground and different Opinions of Men; but as I take it to be my Business at present, if I can, to shew the cheapest and most profitable way to obtain a Wood of Oaks I shall therefore begin with sowing Acorns in broad Lands on this hollow Earth. Let the Land be ploughed into very small Thoroghs immediately before the fowing of the Acorns; then take 2 Bushel of them, and sow out of a Seed Cot, by the broad Cast of the Hand, then harrow them in at difcretion: This Quantity, if they take, will more than furnish an Acre of Ground; but here is Allowance given for Incidents from Fowls and Mice: From this Management perhaps there will arise an Objection, that this large bodied Seed will not be Haled, because in broad Lands there is not a fufficient hollowness of Ground to cover their Bodies from the Injuries of Weather, Fowls, and Mice. To this I answer, That there is Depth enough between the Thoroughs to envellope and cover most of them, by means of the harrow Tynes, infomuch, that if these or the greatest part of them grow that are covered, there will be a sufficient Number to stock the Ground if the rest were all carried off; but that Danger is not so great, if we consider that in a plentiful Year of Matt, and at that Season of October or November, there is full Provision for Birds and Mice; not only from this Mast of Oak, but from the many Corn Fields that then abound with great Store of scattered Grain from the preceding Harvest, which by consequence will divert their Search and Quest after these; And if a Fowling-piece is employ'd

a little, the Danger will be the less, for the loose Ground will readily receive and draw in the Acorn, and then the hazard is mostly over from these fort of Enemies, and also from the Weather, because the Radicle having taken the Ground before the Severities of the Winter, it will thereby be enabled to maintain it self from Winter to Winter, till it becomes a sturdy Oak.

The next thing is to have a strong Fence, that no fort of Cattle may possibly break in; and then there is no more to be done, but to leave this sowed Ground to Providence, and there is no fear of

the best and cheapest of Woods.

Remarks on the preceding METHOD.

THIS way of fowing the Acorns and harrowing them in, is furely the nearest of all others to that of Nature; which always receives upon, and nourishes the Seed from the very Surface of the Ground, as being the richest Part of all the Earth; is nearest, and more ready to take in those Benefits that the Sun, Air, Rain and Dews communicate, which are the very vital Parts and Nurses of the young Oaks; and therefore the more they enjoy of these nutritious Influences, the faster they grow; and this is the true Reason that those numberless Objects that present themselves to Travellers Eyes, who will but imploy them in the Views of the deep and wrong planted Bodies of Trees, are longer growing, and so become set and stunted in less than half their time, as may appear by the knotty, mosfy Bodies and broufy Heads of Oaks, Ashes, and Beeches, &c. and that in some of my own Fields, which was caused at first I suppose by their being too deep planted, that obliged their Roots to make their way into, and feek their Food amongst the red Clays, that

lie about two Foot lower than the Surface; while feveral others, that are planted high and near them, flourish and grow in clean upright Bodies and thriving Heads: This has brought on necessitous Consequences, that has obliged many Owners of fuch Trees to cut them down in this their stunted Condition at less than half Age, which is the time that a well planted Tree runs and grows more in one Year than formerly in several, as I said before; by which may plainly appear the great Value, Moment and Importance of high fowing and setting at first the Seeds and Sets of these Timber Trees, because an Error in the beginning is the worst of Errors, as being most difficult to redress, and often irreparable; and I think I may fay, that wherever a Seed or Set at first is put into the Ground too deep, it will never make a good Tree of any fort.

A Second WAY.

ry forty Foot Distance, in Rows or otherways. First, make a Hole of three or four Foot Diameter, and a Foot or two deep; lay the Earth about the Edge of the same in small Parcels, the beginning of Winter, for the Frosts to shoal and sweeten against the Spring: Or, if you are to plant these Holes at Albollantide, then they must be prepared accordingly before; so that either then, or at Spring, they may be a fine Tilth and loose Order; and when so, thrust three, six or nine Acorns in the Circumference of each Hole, about half a Finger's depth, which by the next Year will be up, and then may be drawn all that are superstuous, and only the Master-Shoot lest; at this rate there will be twenty seven Oaks lest in a square Acre of Ground, at one in each Hole:

After this the Ground about the young Tree must be carefully Hoed several times a Year, for ten or twenty Years, and Fences made about each Oak.

This way will certainly do very well, but the excessive Charge that attends the yearly Management of the Oaks for some Years, is seemingly to me a little discourageing, tho' in process of Time, I believe, it will pay a Man in Proportion, to sisteen or twenty Shillings each Oak at twenty Years End, provided their Side-Shoots are duly trim'd, and Underwood not planted amongst them till six or eight Years be past, least it get up and top the young Oaks to their great Prejudice,

Remarks on the Second METHOD.

HIS way has this Advantage, that the Roots of the Acorns have wider and loofer Room to run into than the former; and therefore I must needs say is an excellent Method; because the hollowness, fineness, and sweetness of any Earth, contribute greatly to the quick Growth of any Vegetable therein planted; and were it possible always to keep their Roots growing in such a loose Mould, an Oak, or any other Tree, would certainly attain its full Bulk in half the usual time it does: This I have in proportion feen experienc'd by a Tree's Growth, that was fet in a Pit' or Hole of loofe Earth of a large Extension, which out-run all the Trees in quickness of Shoot that ever I saw; Here the Acorn may be set as shallow as a Person thinks fit, and the Ground about them for twenty Years together hoed and always kept clean from the Tyranny of choaking Weeds; and here as the Tree grows up, should a Person annually observe to rub the Body with a Hair Cloath, or Back of a Knife, the first Application

plication to be made use of in dry Weather, the latter in Wet, which will dilate its Bark, and open its Pores for readier receiving the Sun's Warmth, and the Rain's Moisture, that will seed and assist a Tree more than is generally thought of: It is this that keeps off that grand Enemy the Moss, which will inevitably overtake all Oaks little or

more that want this fort of Husbandry.

These Holes may be made in Rows to answer both ways of the Field, that the Plough may thereby have room to pass and repass the cross and long ways of this Ground the better, and for the great Conveniency of Ploughing and Sowing any fort of Grain, or Grass Seeds on the same for the first ten Years of this Plantation, till the Oaks have got good Roots, and their Heads high ennough in the Air as to be out of Cattle's reach: But then here may arise an Objection, that the young Oaks will furely fuffer, if not ruined, by the Horse, Cow, and Sheep, that may be turned into this Ground to feed, if the Oaks be not fenced in. To this I answer, that to avoid the great Expence of Cooping and Fencing each Tree, I would turn no Cattle into this Ground, but supply it another way, and that is, if Grain is on it, then as foon as it is got off, plough it up, and fow it in the next Spring with more Grain or Grass; if the latter, then it may be let to grow, and mow two or three Years successively, to the great enriching of the Ground; if, again, Corn is to follow that, it's only ploughing the Land into a fine Tilth, and dress it with Dung or other Manure; and so likewise for the Seeds or Sets of Underwood that are to grow thereon, and furnish this Field for ever after

Here therefore by a right Management, the Charge of Fencing the young Oaks about, may be faved, and the Ground altogether as well enjoyed

and

joyed to Profit; but then, as a Safeguard to both, there ought to be, not only an outside Hedge and Ditch, but also good Railing within-fide, by driving a large Oaken Stake at every five Foot diftance, and pinning or nailing thereto three or four Rows of Rails, about four Inches deep each Rail; this will be an effectual Guard, with the help of a Man's over-fight now and then, and a forbidding Fence against those Night Encroachers and Invaders of a Man's Property, who make it their Bufiness to take all Advantages of a distant Piece of Ground, so planted and sowed with Acorns, and have spoiled several Acres by their Horse and Sheeps biting the leading Shoots before the first feven Years were over, for the Lucre of the Grafs that grows between the young Trees. But if a Fence or Coop was at first set about each Hole, that would not secure the Underwood from the Damage of Cattle, which afterwards is to grow between them: Whereas this infide Railing round the Field at first, will last twenty Years, and thoroughly secure both the Oaks, Corn, Grass, and Underwood, from all Hurt of Beafts, and greatly from the Rapine of Thieves.

This Method of planting Acorns in Holes, is not altogether confined to a Year, or half a Year's preparation of the Ground, but may be done on a sudden: For suppose I had a mind to get a Wood of Oak, Ash, or Beech on a Wheat or other Stubble, or Meadow Ground; then at Allbollantide, or at Spring, I would dig my Holes at forty Foot distance, and at the same time bring as much Virgin Mould to the Place as is necessary, and carry as much to fill up its vacancy, which is only an Exchange, but greatly to our Purpose in forwarding the Oak's Growth; or else I would mix Soot, Rabits Dung, or Fowls Dung, &c. with the natural Earth that comes out of the Hole,

and put it in again. If Grass Ground, the Turf must lie at bottom. In this I would plant my Accorns directly; the rest of the Ground may be ploughed and sowed according to discretion, with Corn or Grass, as I have before hinted. By this no time is lost, and all the Encouragement that can well be given, is here made use of. Here is saved that great Charge and Trouble of Summerwaterings, that a planted Acorn does not require. Here is saved the satisfying, and hazardous Work of transplanting; and here is a Tree to come up, that will be stronger in the Ground, and grow safter than any Set whatsoever.

If the Oak is to grow in Parks or other Places, where the Herbage is to be fed by Dear or other Cattle, then fixty or seventy Foot is but a due distance for the Growth of such Tree and Grass; and by how much they are planted as under, the more the Oak enjoys a free Air, circulation of its Sap, and perspiration of its worser part, which is always more promoted and surthered in its Head if the Side-Shoots are constantly pinch'd or pulled off, and the Ground once a Year digged about the Oaks Roots at every Michaelmas, and afterwards kept dished in a Bow-like manner for the better re-

ceiving the nutritious Rains.

Thus an Acre of Ground, worth but five or ten Shillings an Acre a Year, may be improved to near, it not quite, twenty, with a trifling Charge, which too plainly discovers the Indolence of many able Owners who are wanting in doing themselves and

the Nation this great and good Service.

I have forborn to fet down particular Calculations of the several Charges and Expences of Railing and Fencing in the Holes and Field, because that is obvious to every Farmer, and is of a greater or lesser Amount, according to a Person's Conveniency of having Wood and Servants of his own; or as that part of the Country, where the Operation is performed, is nearer or further off from London.

A Third WAY.

ND that is, when by several Ploughings and a good Dreffing, the Earth is got into good Order, and lies in broad Lands; to fow the Acorns half under Thorough, and half on the Surface, as we often do Peas and Horse Beans: Ac first the Man sows half the Seed all over the Piece of Ground, and ploughs them in as shallow as possible; when that is done, he sows the other half over the same Ground, and harrows them in; this secures one half however from the Fowls and Weather: But this according to the Mind of each Person; for my part, I am for following the Steps of Nature as close as I can, and I think I cannot copy her more nearly than harrowing in the Acorns as I have faid before, that they may grow from the very Top of the Earth, as all do that fall from Trees, or dropt and left by Fowls or Mice; as it also is, with the great Numbers of Cherry-trees that grow in our Woods, occasion'd by the Stones that the Fowls drop from their Beaks and Bodies.

Remarks on the Third METHOD.

I Confess that where the Ground is a true Loam, and that ploughed into a fine hollow Tilth, and that again furthered by Cart Dungs; the Acorn here may speed very well, but without this Management, I think it's but Male-practice, and will greatly endanger burying the Acorn; as I knew it once done some Years ago, by a Mans following the Plough, and straining in the Acorna every

every second Thorough of a Wheat Stitch, that was thus ploughed down into broad Lands, which absolutely bury'd the Acorns, and the Owner lost both his Hopes and Profit by so doing; because the Earth was heavy and clung for want of several Ploughings that should have preceded the sowing of the Acorns; and also for want of its being well dang'd, that would have put the Ground into good Heart, and kept it hollow for the free and easy sprouting of the Seed.

A Fourth WAY

TS, if opportunity does not answer a Person's Inclination of fowing the Acorn as foon as ripe; or that the Ground is too wet and low for venturing them at that time of the Year; then the Owner may lay them in dry Sand upon a Layer of that, then a Layer of Acorns, and fo on in a Tub, Barrel, or Room, which will stop the Acorns Growth, and make it fit for fowing in February or March, in a true fine Tilth and well dress'd Ground. In this Case a Method ought to be adapted to the Nature of the Soil and Situation of the Place; and therefore on such a wet, low Earth, broad Lands are very improper to fow the Acorn in, because the Wets would chiff and stunt the young Oaks, and hinder them from ever attaining a proper Bulk and Stature: For which reason, when the Ground is in true Order, and in broad Lands, either with the Foot of Wheel Plough, make a Stitch or Ridge at a Bout, and strain in the Acorns by a Man's Hand in two Thoroughs a little distance in the Stitch; then run the Plough between, which will make a Hollow or Henting that covers and fills in both the Thoroughs at once; and so on after this way throughout the Field; leaving between each Stitch or Ridge

Ridge three, six, or more whole Feet of whole Ground that is not to be medled with. This high sowing on a Stitch will very much contribute to the preservation of the Acorn, against the damage of Wets and Chills, that in many Grounds is the bane of all things that grow therein.

Remarks on the Fourth METHOD.

S the Acorns are fown in Stitches, or Ridges, at no greater Distance than what is necessary for the spread of the Oaks Roots, there should nothing else be suffered to grow but them, and this may be done by the Interspaces being kept clean with Hoes, and then the young Trees will have a great Advantage by this high fowing; because many of their Roots will run almost level with the Ground, and be better watered by the Rains Descension from the top and sides of the Stitches; fo that here will be nothing more to do; than looking after their Bodies and keeping them from Moss, the growth of Side-Shoots, and thinning them where they are too thick. I have planted several Apple Trees in my Orchard in Stitches, that by this means grow as fast again as those in the Levels. At Leyburn in the Vale, I have also feen a fine Apple Orchard, that because the Ground was flat and wettish, they planted the Trees on high Ridges made by the Foot Plough, by ridging up four or fix Foot broad of Earth. So likewise either in the Vale or Chiltern may Oaken Sets be planted on these Ridges, alone, or with Sallow Sets or Cuttings, &c.

A Fifth WAY.

T Potten-End, about two Miles from me, (I am told by a Person now living that faw it) there was, about forty Years ago, half an Acre of Land fowed with most forts of Seeds of Wood, that the Owner could get, amongst which were Hazel Nuts; these invited the Boys as carefully to carry them off, as he brought them on; which Accident so instamp'd the Transaction on the Memory of those that were Gatherers of the Nuts at that time, as caused them to remember the Matter (as they fay) truly well. And there is now on the same Piece of Ground, good Oaks, Beech, Ash, &c. that grow very well from the Persons harrowing all the Seeds in, which as foon as done, he fowed Hens Dung all over the same, that by the Winter Rains was washed in before the next Summer: This Method was attended with great Success, for the Fowl Dung made the Seeds push up and run vigorously, so that they overcame the Weeds and made their Progress, without their hindrance.

Remarks on the Fifth METHOD.

THIS way is full Sowing and full Drefling at one and the fame time, which admits of no other Improvement, than cleaning, fencing in, pulling off the lateral Shoots as they appear, and thinning where they are too thick.

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A Sixth Way.

THERE is in my Neighbourhood a Man that the Farmers in general allow to understand Country Affairs very well, and is often employed in Wood Work, who says, that if a Piece of Ground is designed for a Wood of Oak, there is not (in his Opinion) a better way to obtain it, than to plough, dung, and let it run over with wild Grass and Weeds, which it will do in one Summer, and at the End thereof, about Allbollantide or sooner, to sow one Bushel of Acorns, or more broad Cast on each Acre thereof; and do nothing more than sence in the Ground from damage of Cattle, to have a Wood the quickest and in the best manner of all others—— his Reasons for so doing are these, viz.

First, this Grass and Weeds, by its large Burthen, will cause a great Hollowness on the Surface of the Ground, which by its dying on the same, becomes one of the best Manures, not only by helping to keep in the Spirit of the Earth, which all Shades certainly contribute too, but returns faline, nitrous, and sulphurous Qualities back again, by the Dung and Dressing this rotted Fogg makes, and thereby brings the Ground under a gradual Fermentation, and hollow, spungy Texture of Parts, as is most evidently selt by the soft, hollow Tread of ones Foot in woody Grounds; or where a good Crop of Peas, or o-

secondly, That this and all Ground has such a Suction and Attraction inherent to its Nature (as being the Mother of all Things) as will eagerly draw all sorts of Seeds into its Surface; and therefore it is, that the Earth freely receives and shel-

ters the Acorn, so that it will lie in this loose, mellow, moist, warm Earth; and by next Summer grow with great Vigour, and be desended from the Damage of Droughts by the Cover of this Grass and Fogg; which by yearly consuming on the Ground, becomes a yearly Dressing to the young Oaks, and will push them on with great Fertility.

Remarks on the Sixth METHOD.

Can't fay, but this way has a probability of Success attending it, by reason it is so near that of Nature; for in a four Acre Meadow of my own, adjoyning to my House, there were reckoned by the Mowers to be two Hundred young Oaks, about fix Inches long, that spontaneously grow up from the Acorns that were brought there by the greatest Artists in the World, the Fowls and Mice; who made this Piece of Ground their Rendezvous to feed on the Acorns, that they collected and brought from the adjacent Woods. My number are fifteen inclosed Fields, confisting of Meadows and ploughed Grounds, nine others I rent of our Parson: Now in all the Wheat and Meadow Fields, I believe I may fay, there were growing this Summer, 1732, many young Oaks from the Acorns that Birds and Mice brought on the Ground, from Trees that the Year before were almost full of them; by which it appears, that the Fowls and Mice are the first Bringers on, and Sowers of the Acorns in the Meadows and ploughed Grounds; because its Body being a large Solid, cannot be supposed to be scattered over such Grounds by the Wind; and why the Meadow, or any other smooth ploughed Ground

Ground should have a greater share of this Seed, than the rough, clotty Land, is easily accounted for: because here is smooth walking, and easier Access to each others Company, which is agreeable to Fowls as well as Beafts; and here is the Place that they are best acquainted with, from their usual frequenting at other times in the Year, in quest of Worms, Snails, &c. which in the rough Grounds cannot be so pleasant, because they there must look before they step, and so lose in a great Meafure their Enjoyment in feeding on this delicious Food, which they are always most pleased with, when they can eat it in an unobstructed Piece of Ground: Here it is then that they scatter this Seed, and fometimes leave it on the fame by way of Magazine, and Provision against their next Hunger; and soemtimes they bring to the e Places Branches of Acorns which are not always all eaten; at other times they are suddenly scattered and frighted from the Spot of Ground, which in their precipitated Fright causes them to leave and forget the Acorns they lately brought, and that chiefly by the Rook, Crow and Jay: The Rook upon this Account is the busiest, and most common Fowl of all others, by reason of their greater Numbers; and it is disputed by some, whether they don't bring several Acorns in that Bag which generally hangs under the old ones Throat, and difgorge them as Pigeons do Peas and Beans at their Pleasure: We are very sensible they bring Worms and Water in this Bagito feed their young Ones with; and nothing but the bigness of the Acorn makes us doubt their not doing fo by this, in order to make their Hoards at the bottom of a Furze-bush, and other Places which the Furze-men often find, as well as Walnuts that the Rooks thrust in with their Beaks; by which means, are

the many young Oaks seen on Commons, that are cut down when the Furzens are, by the Strokes of their Two-handed long Bills; for it often happens that a great deal of this Seed is envellop'd and covered by the Moss and Grass, that the hollow Earth in ploughed Grounds will readily and naturally receive, nourish, and cause the same to strike its Radicle into it; where, at that time of the Year, it has more than ordinary Encouragement to grow, because the Rains and Dews are moderate, and the Ground about Michaelmas time under a fertile, bearing State; and by thus getting Root easily, it secures it self against the Violence of the Winter Frosts and Wets. It is common about Marlow in Berksbire for the Boys to follow the Rooks, to get the Walnuts they bring and leave on the Grounds there. Also in the Grove Meadows, a Mile below Ivinghoe, a a Plough-man told me he had ploughed up great Numbers of Acorns, and Walnuts this Summer, 1732. when he turned up the Ant-hills with the long, wide Sharr'd foot Plough; these he concluded were brought thither by the Rooks, who feed on them there for their greater Safety and Repose; and those that were left, were carried away by the Mice, for their Winter Provision; for the Rook is a fubtle Fowl, and will strip a Walnut Tree in a little Time, and will hoard them, as knowing they will be foondepriv'd of that opportunity, by their being gathered; and fo of the Acorn, I have feen them rid a Tree presently by their great Numbers.

Hence it is, that I infer, that a Meadow or prepared Ploughed Ground, that lies at a small distance from a Wood of Oak, and in an undisturbed Situation, may possibly have considerable Numbers of young Oaks grow on the same, besides what are produced

produced by fowed Acorns and planted Sers, merely by the Fowls bringing the Acorns, and feeding on them there, in a plentiful Mast Year. And if this Field, or Piece of Ground, lies in reach of the Wind's Power, by which they may be conveyed from some neighbouring Wood, Hedges or fingle Trees, then will there be as numerous an Issue by Ashen Keys, and Gollins of Sallows, Asps, and white Wood, as will quickly compleat this intended Wood, and out-do the very next Field that was fowed or fet too deep. But I would here be understood, that I am not a direct Votary for any certain Stress to be laid on this Method of encreafing a Wood of Oak, Beech, Ash, Sallow, &c. only to shew the possibility and probability of augmenting one by Fowls, Mice, and Winds; for it may be depended on, that fowing and Planting the Acorn and Set, is much thefurer way.

The Seventh WAY.

N some part of Hampsbire I have been credibly informed that it has been the Practice of some, to plant a piece of Ground with youngOaken Trees, as being thought to be the quickest way of all others to get a Wood; but then this Method is confined only to the Power of those who are Owners of a Wood already, or at least but to few others; and then they dig and take up a young Oak, perhaps of four, five, fix or eight Foot high, with such a Ball or Parcel of Earth, as when carefully carried and transplanted with the Roots in it. and put into Holes duly prepared before-hand, will grow, flourish, and come to perfection much sooner than the small Set or Acorn; and by losing Part, or all of its Tap-root, will commence its new Growth horizontally, and get its Nourishment from the very best Part of the Ground, I meanthe SurSurface; and this Work should be done in October, as the very best time in the whole Year; or in Frosty Weather, by digging some time before about the young Oak, and as soon as the Earth is hard Frozen about its Roots, then take up the Tree and that together, and carry it on a Sledge, or other Carriage, to the Place designed, and stake or sence it up very well, as directed for the Beech; thus an Oaken Wood may sooner than ordinary be

brought into a State of Perfection.

The latter End of November, 1732. was the first Frost that happened this Winter, when several Firr Trees, I believe twenty Feet high, and eight Inches diameter in Body, were transplanted in this manner, on a Common near me, with a Beech at every ten Foot distance between them, for covering the View of an old House that stood at the End of a Visto; the Turf was first pared off, and the under Mould loosened; on this they planted the Trees, and mounded them up with Turff they pared off, about the Place, which was sufficient with the Earth they brought with the Trees Roots; putting at the same time, Wheat-straw between the layings on of the Turf, to keep the Frosts off in Winter, and the Drought of the Sun and Air in Summer; after this, they staked each Tree with four Poles, of about ten Foot long.



CHAP. VII.

The Nature, and Improvement of the BEECH.

THE white, or filver Beech is the most common in these Parts, where we abound in Mountains and hilly Grounds of Chalks, Clays, GraGravels and Loams, which make considerable returns of Profit to their Owners in the Growth of this most valuable Tree: 'Tis this Tree that makes many Parts of England happy in its Productions, and chiefly because it will grow on the Sides and steep Declivities of chalky Hills, where no other Timber will thrive so well; as may be seen in that long Chain of high Grounds, that runs from Dunstable to near Wallingford, which is above twenty Miles to the Westward, and lies mostly contiguous to the fertile Vale of Ailes-

bury.

The Black-grain'd or Black-bark'd Beech, whose Wood is of a longer Duration, will thrive, and make its plentiful Returns of Wood, and Mast in the Flats and Levels of this our Chiltern Country; and to speak more general, they both answer fo well in any of these Grounds, that I don't perceive any regard is had to the particular Species of the Beech in fowing the Mast, or making Plan-But it is certain, that neither tations by Sets. fort of Beech will grow to any purpose in the large Vale of Ailesbury, or in any wet, moorish Ground; yet will thrive very fast, and to a monstrous Size, in our Loams, Clays, and chalky Grounds, &c. in the Chiltern; infomuch, that I knew one fell'd in Astridge Park that had one hundred fifty seven Foot of Timber in it, besides twenty one Stack of Fire-wood Billet, nine Stack of Roots, and three Hundred of Faggots. Where also may now be feen great Numbers of very large Beech Trees, as being accounted by good Judges, one of the best wooded Parks in England. This utterly confutes what a modern Author fays, That wherever the Oak thrives the Beech will, and that they delight very much to grow together ---- Whereas some of the greatest Oaks have, and do slourish in this Vale, that refuses Entertainment to

the Beech, notwithstanding the many Attempts that have been made by several to obtain their Growth there; particularly by Sir Thomas Leigh, the present Representative for Allesbury, by their fowing the Mast, and planting young Beeches an mongst, or near their Oaks, within a few Miles of that Town, but to no purpose; for the Beech will never make a good Tree in their vale, spewey, and wet Soil; nor will the Oak, nor indeed any other Timber Tree, grow to any profit in chalky Grounds; which obliged our Fore-fathers, as well as those of the present Age, to set the Sides of their chalky Hills, &c. with Beechmast, where this Tree will run up to a vast height with great Expedition; as may be feet on that worthy Gentleman's Estate, John Duncombe, Esq; at Barly-End, near me: Nor can I be of Opinia on, that the Oak and Beech grow best together; but on the contrary, I believe them best in their own Company, because the Beech grows too fast for the Oak's Pace; and as if nature delighted her felf with the entire Growth of each fort, it generally happens in our Chiltern, that where a Wood of Oak has been fell'd, a Wood of Beech has spontaneously succeeded; and when this has once got Dominion, it will be fure always to remain This very Case has happen'd to Sin Wil-Master, liam Stanbope's Wood, about twenty Years ago, within a Quarter of a Mile of my House, called The Great Hoo, where the young Beeches grow fo fast in the room of the Oaks, that it is thought, they will be fit to fell about twenty Years hence.

This Tree furnishes Boards for Out-fides of Barns, Floors of Chambers, and for Threshing, Wood for Fellows of Wheels, Frames for Chairs, Ship and Mill-wright, Turners of hollow Ware, and even for Wainscot: In the Water this Wood is said to lie Hundreds of Years without decay,

which

wheich makes it fo ferviceable in Mill-work, &? that they have chiefly by these Means proved it Timber, which formerly in many Places was deem'd otherwise, particularly in Hertfordibire. A famous Instance of which, happened between ----Uxley, Esq; Defendant, and the Rev. Mr. Biby of Carrington, Plaintiff, about the Year 1725; the Contest was some time before the Barons of the Exchequer, but was at last given in Favour of the Deschdant, on Account of its Timber Uses in Milt-work, Keels of Ships, and in House-building, &c. fo that in Hertfordfbire it is now deem'd Timber, as well as before this Tryal it was in Backs after twenty Years old, and then Tythe free; but If any Beech is fell'd, and another from the same grows up, this is to be Tythed whenever it is cut down.

Of the Sap of BEECH, and how to get it out.

HE Sap of this Tree is more destructive to its Wood, than any other Timber force whatfoever; therefore 'tis a ufeful Art how to get it out; for 'tis this Sap that breeds the Worm faster, and in more abundance than in any other, causing a swift Rot and other Missortunes; which very material Point has not, as I know of, been yet wrote of by any Author; and it is so perfectly necessary, to get the Sap out of the Beech by some Means of other, before the Wainfeot Boards or Planks, &c. are made use of; that otherwise they will bulge out and in for many Years, as the Weather is moin or dry; and fo it will in Flooringboards, notwithstanding they are mailed down ever so fast; as I have proved in a Garret-floor of my own, which unfortunately fired by a Neighbour's House, but several of the Beechen-boards were preferred and laid down again, fince which L 2 they

they never stirred: Therefore if Sap could be got out, I doubt not but they would lie as well as other Boards, as plainly appears by these of mine that were fcorch'd, and the Sap burnt out: But in the two Inch Plank for Barn Flooring, where they are drove down with wooden Pins. they may lie well enough for many Years, if immediately after fawing they are thrown into a Pond or River, and there let lye four or five Months, after which they must be thoroughly dried and layed twice. The Practice of an old Carpenter by me, is, to cut this Tree down in Winter, and let it lie on the Ground two Years, till the Wood begins to be spotted or motled; then he cuts it into Planks or Boards, and foaks them in fresh Water; but if a Person had the Conveniency of salt Water, I should think that would be much better: By this time, he fays, the Sap is so deadned aud hardned, that the Worm cannot breed so soon, nor fo much in it; and has himself some in good Order now, that were laid above thirty Years ago as Flooring boards; for which use, thirteen are commonly faved of folid Timber a Foot broad, but more for Barn-fides, because the thinner the Board, the less Power the Worm has.

A Second WAY.

AY be made use of in the smaller fort of Beech Trees, whose Bodies do not exceed twelve or sourteen Inches thick; that first should be hewn and squar'd, and Mortaises made ready for Plates, Chimney Pieces, and also for Somer and Joysts, &c. then they may be lain in length and supported at each End, so that sour, sive or six together may lie even and close together, about a Foot or two higher than the Ground; under these may Furzen, Fern, Straw, Shavings,

or Faggots be put to burn all their Out-Sides till they have a thin, black Crust; this will so embitter the Wood, and roast out its Sap, that there will be but small Encouragement lest for the Worm to lodge and breed; because the Worm undoubtedly has a Tafte, tho' an Infect, and therefore will confequently leave the tainted Wood, or die in it, and be prevented afterwards by this Extraction of the Sap, which is the prime Cause of their first Encrease. These Somers and Joysts will lie very well next a Fire, and where their Ends do not rest on damp Walls; but be they any where, their Ends should first be dipt in melted Pitch, as a Preservative; I know of two Houses that now have Somers and Joysts of this Wood, in one they have lain fifty Years, as the Tenant fays, and the other thirty, noof east of the on Weight and the gas them out rough: he throws them into bolling

A Third WAY

they'll been their white colours and A CCORDING to the modern Practice. and indeed far the best it is, instead of cutting this Tree down in Winter, as the usual way has been, to fell it about a Fortnight after Midsummer, when it is reckoned in full Sap, or in its most flourishing State; for that then its Juices are at the thinnest, and strongly employed in Branches, Leaves and Fruit; and then it is, the Body has the least Share of Sap in it; therefore it will be much more run out, exhaufted and dryed away by the Sun's Heat, than if fallen in Winter: Now the Benefit of this entire new Method is not a little, for it has been proved, that the Wood of a Beech Tree fo felled, has endured much longer found, than that cut down in Winter; the Tryal was by letting both these Trees lie on the Ground in the open Weather; and in very few Years the Winter Tree was worm-eaten, and began to rot, when

when the other remain'd clear and found; fo that the very best way of all that is practised in my Knowledge, is to fell this Tree in Summer, and let it lie one Year abroad with the Rind on, sometimes turning it; and then faw it into Boards or Planks, which must be laid in a Pond or River. three, four or five Months, till the Sap is foaked or washed out: This will keep the Boards from warping in a greet Measure, and cause them to endure forty or fifty Years on Floors, and against the Sides of Barns, &c. As to Capt. Cumberland's Method (for which he has a Patent) of extracting the Sap out of Planks for Ship-building, by fweating them in hot Sand; I can't fee how it answers, because I have not seen the Experience of it; But the Trencher-maker is fo cautious of getting the Sap out of this Wood, that as foon as he has cut them out rough, he throws them into boiling Water, which directly brings out the Sap, and then they'll keep their white Colour, and be more free from the Worm; which etherwise would in a Month or two eat through their thin Substance.

Of the Management of the BRECH, in Timber Uses, &c.

fell it in Summer, and faw it but directly for Timber use; for that a Tree so cut into Pieces, is brought under the Power of the Air much more and sooner than when in one round Body; and then must be carefully preserved from the Sun and Wet under Cover; where the Sap will be sooner dryed out, the Colour kept in, the Wood hardened, and the Worm greatly prevented; for tis certain the Sap of a Tree is in two different States in a Year: In Summer, a shuid, aqueous Body, rarested by Heat; in Winter, a glutinous Considerce, densited

fied by Cold, which has caused different Opinions about its Circulation: One Author afferting it to ascend and descend gradually all over the Tree, as the Blood moves in the Body of Animals: Another, that the Sap in the North-fide is not always fo thin as that in the South, and therefore denies is that Regularity; and I have heard a Workman in this Wood fay, that that Part of the Tree that food to the South-east Aspect, rended or split more firm and free, than the other contrary Sides; But however that be, 'eis allowed, that the Sap is the immediate Cause of the Worms breeding; which being of a moist Nature, all Dryness is an Enemy to it, and by consequence, a Conservation of its Wood. In the late great Fire at Ailesbury, there were some Timber Plates saved, that had lain fixty Years in one of the Houses there, and shewn by an old Carpenter as thorough found Beech. So great a Friend is Cover and Dryness to this Wood, as has been obvious in a Chair that was made of it, which usually was kept by the Fire, and is now in good Order at above thirty Years Old; when others that flood in a more dampish Place, rotted in seven Year. To avoid then the pernicious Effects of Dampness, that suddenly helps the Sap in the production of the Worm and Rot: I here caution every one concernid in laying a Barn Floor with this fort of Wood, that they do not lay the Planks too near the Ground; if they do, they will furely rot in less than seven Years time; therefore the best Remedy is to lay them on Somer and Joysts, about a Foot on two from the Ground; for nothing decays it faster than to let it lie wer and dry; several Farmers of late have laid it thus, dry and high, and yet have an easy Passage with their Care or Waggon into the Barn, by a Rifing made of Boards, with crofs Ledges nail'd on the fame, to stop the Horses Ecce,

like that by which Horses and Coaches get into Ferry Boats; or by a rifing Ground made on purpose for this Occasion. Now there are two ways of laying these Planks to Thresh on, to hinder their opening at the Joints (which they are apt to do though laid twice) and letting the Corn through; one Way is, to lay one Plank a little over the other at Bottom, but this loses too much of it; the other is to make a Groove in each Plank, and put in a Slip of Wood, like a Lath, which the Carpenters call Tongueing it; some also saw the Boards of Beech Feather-edg'd for the Sides of Barns, as believing they best carry off the Water this way. The Price of this Timber here, is fix Pence the folid Foot: The Boards feven Shillings and fix Pence a Hundred, and the Planks for Threshing Floors, two Pence Half-penny a Foot, both superficial Measure.

Of the Seed, or Mast of the BEECH.

HE Beech excells all other Trees in Parks, &c. for the Returns it makes of prodigious Quantities of sweet, healthful Mast, which greatly helps to subsist the red and fallow Deer, sometimes for most part of the Winter, as I have seen in that of Albridge, near my House, which is seven Miles about, and contains twelve or fourteen Thousand Head of both forts. The express'd Oyl of this Mast, I have thought very pleasant to my Taste, and near as good as that of Olive, and is faid to yield two Gallons from one Bushel; then if one Hundred and Eight Trees on an Acre, at twenty Foot distance, were to afford five Bushels on each (instead of fifty as some reckon) that would amount to five Hundred and Forty Bufhels, which, according to this Calculation, will produce one Thousand and Eighty Gallons of Oyl, that

that may very well be allowed worth three Shillings per Gallon; and if only out of that Sum, one Shilling was to come clear to the Owner, what an immente Profit must here be to those that have great Numbers of Acres of this Wood, besides the Benefit of the Timber's Growth; nor is the Hulls without their Value, for of this the Poor sweep up great Store for their Winter Firing; and when the Mast happens to be plentiful (which commonly is every fecond or third Year) we Farmers generally get our Hogs almost half tatted, before we put them up for Bacon. The Leaves, if gathered before the Frost, and about the time of their Fall, make the best of Mattresses to lie under a Feather Bed, or otherwise, that will continue fweet seven or eight Years, by their Tenderness and loose Lying; so that the Wood and Leaves make both House and Bed, and the former the best of Firing; of which I have fent several Stacks to Mr. Roger Williams, at his House in St. James's Street, who makes a great Consumption thereof.

To raise a BEECH Wood from Seeds or Sets.

Country-man about Christmas, that there will be a probability of a Mast Season the succeeding Summer; and when the Bloom out of this Bud shews shews it felf, as it will sometimes near an Inch long, with a fort of rough Head, somewhat like a Golling; it is then a Confirmation, if the Extremity of Weather does not destroy it. Beeches are best raised from their Mast, which are usually ripe some time in October or November, when they should be gathered and directly sown, on Ground that has before been sufficiently Ploughed into a sineness, and duly manured: But if this Work is deserred till the Spring, then the Seed

mult be laid indryed Sand, and not into that which is wet or damp; for then their Radicles will be in Danger of Sprouting before the fowing Seafon, comes on, and that is when the great Frosts and Colds are mostly over, which happens fometimes in February. This Seed differs from all other Timber forts, in that it comes first up with the Seed on its Head, opening in two Parts like a Kidney-bean, then fucceed two Leaves; and fo proceeds; 'tis therefore that this Seed must be ordered accordingly, for as it is obliged to make its way out of its nativeMould, under the difadvantage of fuch a large open Head, it requires a light, hollow Earth, wherein this Seed is fown, otherwise it will lie and rot, as not being able to make its way through; fo that to fow it in a stiff, clotty Soil, or to plough it in under thorough, or to fet it deep, is downright burying it, to the Owner's loss and disappointment: And as this Description of the Seed, and Caution of its first Management, has been wanting in all Authors I ever met with; I shall therefore advise my Reader to sow two Bushels of this in its Hull, or without, on an Acre, broad Cast, on broad Lands, well harrowed in both ways, on fuch Ground, and at fuch time as is before directed; fo that I shall not further enlarge on this Particular, because what I have writ of the Acorn may fusfice, in shewing the further ordering of this; I only shall add, notwithstanding all that is, or can be faid of the feveral Methods to get a Wood, either of Oak, Beech, Ash, and many others, yet is there none fo perfect and genuine as that which is raised directly from the Seed; because no transplanted Set or Tree can possibly be taken from one, and replanted in another Earth, without Violence done to fome of its fine Capilliary Roots, which has been the Occasion of maby ill Confequences, too long here to endmerate;

and therefore the Second-hand Way is only to be made use of, where the first can't conveniently be done; for 'tis obvious to common Reason, that the Root of any Tree has the most propitious Opporunity of making its gradual Growth from its Radicle or Sprout, that never afterwards meets with Opposition as transplanted ones do, that are not naturalized to the Ground, which is the Caufe that their genial Roots push with more vigour, grow stronger, and stand in need of less Watering, than the replanted ones do; nor do I believe & Tree will be so good Timber, as that raised on the Spot from its Seed; and for ought I know it may be the real Reason, why the Elm that is generally transplanted, is often a more shaken and hattered Tree in its Body, than any of the Timber fort are. In that Part of the Country, remote from Woods of Beech, the Mast of this Tree may be transplanted, where it may be fown either in their Fields as aforefaid, or in their Nursery-beds, in shallow Drills well manured, as we do the French Bean; and this either in October or February, and afterwards transplanted into another Bed, at a Foot afunder, till they are of fuch a bigness as is defired, to plant out for good in a Hedge or Field: However, as I am now Writing from a woody Country, where Beechen Sets may be had in many Places; I shall enlarge on the Propagation thereof, as being made use of by many here as the readiest Way, particularly to raise Hedges with. In our Woods of Beech, arise spontaneously great Numbers of young Shoots, which about Officher (for that is the very best time) may easily be drawn by a Man's Hand, especially if great Rains have lately fell before; these, I say, may be had of any Size, but the best in my Opinion are those of . two Foot long, for then the Set has commodly a good Root, which a smaller one has not; these M 2 muit

must not have their Tops cut off, for then they will not grow, as feveral have experienc'd, that would not be convinc'd, till Tryal warranted the Truth; and of this, Authors have hitherto been deficient in their Writings, but the Side-branches ought not to be cut off, till they are at a sufficient Height, and not then close to the Body; for the Beech either in Set or Tree, does not agree with the Edge-tool, like some others: This Order then to obtain a Wood by Transplantation, I propose to perform two several ways: First, let the Ground be well fenced, ploughed, and manured in broad Lands; then on this level Earth run a Line cross the Field, and at every ten on twenty Foot distance, plant one or more of these Sets on the Surface, and mould it up with a Border, putting a little Fern between, and some on the top, leaving a small Hollowness or Dish about the Root, in the manner Cucumbers are fet in a Garden, for the Water the better to descend to the Root; and when one Row is done, then move the Line to ten or twenty Foot further, and fo on; these may be kept watered and hoe'd, according to the Pleasure of the Owner, and artificial or natural Grass, enjoy'd in the Interspaces, &c. Secondly, by the Plough, the Ground may be fo gathered into a four Thorough'd-stitch or Ridge, and on that may be made a Thorough or Gutter, by drawing the Plough once through the upper Part of it; in this may be planted at every ten or twenty Foot distance a young Beech, and the rest of the Stitch fill'd up in a Row with Sets of Hazel, Sallow, and other Underwood, but so that each Beech must be planted in one Row, against the middle Vacancy in the other Row that is to be at fix Foot distance; this way will give an Opportunity to keep the Interspaces, as I have said before, clean, that the Roots may not be impeded

by Weeds, and thereby better watered by the Defeent of the Land between the Rows, as may be feen at Sir Thomas Seabright's Grounds near Market-Street; by this Method, the Trees and Underwood are also better preserved against Thieves; for here a cut Stick may be easily missed, when those planted promiseuously are difficult of Discovery, which has so encouraged this sort of Rapine, that I have seen a young Beech of I believe twenty Years old, that was cut down, the Stump daub'd over with Dirt, and was carrying away on a Fellow's Shoulder, when I met him in the Wood.

Of the Transplanting large Trees.

Where the Mast can't be sown, nor the Set commodiously planted, then a Beech of seven or eight Foot high, and three or six Inches Diameter is best, which to do, the Method that is set down for young Oaks will answer here: There are several of these planted on our Green, with the upper Part of their Heads on, and only their Side-shoots trim'd up, with one great Stake drove into the Ground aud sastened with a Band to its Body, and then bush'd up very well all round and high; these stand on a Bank, but if they are to be planted on Chalks, then a Hole must be first dug, and good Mould put in it.

Observations on TRANSPLANTING.

HERE an old Beech has been felled, in order to raise another from the Shoot, that might spontaneously get up from the same Place, there has been several Pomes of Palding brought upon the Spot of Ground to enclose it:

But it has been found by Experience in many Instances of various Kinds, that there are several forts of Juices or Qualities in the Earth, with which it is impregnated by the original Creator. for the Nourishment of the many forts of Species that grow therein, each particular having a Power to extract and imbibe the same, after his inherent Nature, peculiar to the Mode and Texture of its Parts, which has been evidently proved, both in Trees, Corn, and Grass; for where an Oak, Beech, or Ash has been fell'd, and another suffered to succeed in the fame Place, by a Shoot from the old Root, or another of the same Kind transplanted in its Place; it will either be defective in its Growth. or elfe not grow at all, as is obvious in some of mine and others Grounds; several of which fort I have cut down, and what most of our Country Carpenters are apprifed of, when they look at the bottom of the Tree; therefore when one fort has been fell'd, the Root ought to be extirpated, and one of another Specie planted in its Room; and this Nature it self dictates to us, according to what happened to my next Neighbour, who planted a young Apple Tree where an old one had been felled, but it grew fo flow, as provoked him to take it up, and put a standard Pear Tree in its Room. which now flourishes to his Satisfaction: The very same Reason accounts for the sowing of Corn and Grass; if Wheat directly follows Wheat, and a Crop of Barley or Oats fuceceds one and the fame fort of Grain; or if Clover was to follow Clover, they would certainly degenerate in a Degree, and prove a loss both of Cost and Time; which is the very Cause why the Farmers in general find a Benefit in fending fome Miles for different Seed; and 'tis as certain, where an old Beech has been out down, that the Ground about it is fo

impoverish'd by its long living in its Juices, as to make it barren to a Successor of its own kind.

To raife a BEBER Hedge by Masts or Sets.

D Y Mast, either in the Month of Ochber, or in D February, or March, it may be fown in a Drill, almost close to each other, and then the Earth covered lightly on the same, and over that fome Horse-litter to desend them from the Frost and Sun, but not in too great a Quantity: This I suppose to be done in a Bank of Mould, thrown up by making a Ditch of two Foot deep, and as much wide. But our common Method here is, to raife a Hedge by Sets, which is the quicker and readier Way; for of late it has been discovered, that no Wood makes fo strong and profitable a Fence on Chalky Grounds as the Beech, because this will grow and flourish there when others will not. It was about the Year 1718, that I planted above fifty Poles of Ground with Sets, and was esteemed by proper Judges to be as fine a Hedge as ever they faw; for it was in some Parts of it eight Foot high, and so much Wood in it, as encourag'd me to make it last Winter, 1731. by plaishing it down. When I first begun making it, I proceeded thus, viz. as I threw up my first Spit of Mould, I planted my Sets of about two Foot long in the same, and so went on, planting them in a fingle Row, as near together as their Roots would allow me; on these I threw the rest of the Mould that come out of the Ditch, but in doing it, I observed with a great deal of Care, to lay, chamber, and spread their Roots, fo that the Fibres might not touch one another, but be kept afunder by the fresh Mould that was lay'd between and upon them, by which the Roots are bedded, and grew fome time fingle in Virgin Mould, as is the Nature of the first Spit; and when the second

was laid on, some Horse-litter should have been put between the Mould on the top, to keep the Frost off, or the Sun from drying their Roots the fucceeding Summer. In this Hedge I planted feveral white Thorn Sets, and both Sorts grew very well, having the two great Advantages of untry'd Earth, and a Ditch to receive the young Roots; the former by its rich nitrous Quality. and the latter by shading, and watering the new spreading Fibres. I also took care to pull up my Sets in an adjacent Wood, in a moist time, for then so much Mould kept to their Roots, as to secure them from being dry, which I presently transplanted (I think) in October, as the best Time in the whole Year; for then the Severities of Winter not being come on, the Roots directly struck into the Ground a little, and thereby were capable of defending themselves against the Extremeties of Frosts and Colds. Sheep, nor any other Cattle must have Access to them, the first two or three Years; for if they have, it's very likely they will destroy them, by their biting the Top or Side-shoots, or else to rub them with their Oily Wool, as to venom and impede their Growth; and these are not only an Enemy to the Beech, but indeed to all forts of Vegetables in their Youth, from the Oak to the Shrub; and ought more than ordinary to be prevented here, because these being of the Tree kind, instead of running expeditionsly upright, will get a broufy, bufhy Head, like the shrubby Sort, that now grows on Wiggington Common by Tring, occasion'd at first by the Cattles Bite, or the Peoples untimely Cutting, for here they have free Liberty at certain times fo to do; and then the Beech makes not a quarter Return of Profit, as they will if they get high enough out of the Cattle's way with their Topshoots: Upon this careful Management, while in its

its Infancy, depends the After-success of a Beech Hedge; even as it is with a Colt, who is check'd by being work'd too foon, will be shackled-ham'd, stunted, and complain ever after; so will this, if bit at top, or made too foon, before the Stems have Strength to endure the Chop of the Bill, and the violent Bendings of part of their Bodies by Plaishing down; nor will this Sort of Wood rightly endure making in frosty Weather, when by the Cut of the Tool, it will fly from its Stem, caused by the Saps being frozen into a glassy, brittle Substance; and also because the Beech is more spale and short in it self than many others be. By Dunfable Downs, there was a beechen Hedge fet about ten Years ago, but a great many died for these two Reasons: First, they planted them too late, that the Drought overtook them upon the dry Chalk: Secondly, They threw too much Earth upon their Roots, infomuch that it kept off the nourishing Rains from coming at them in due Season, and alfo much of the Sun's Heat, as was necessary to make the Rain more healthful to them; fo that this lies in the Discretion of the Planter, who, to avoid Extreams, must endeavour to lay on such a quantity of Mould, as will in a medium Way let both Rain and Sun in. This Beech Hedge will also prosper in Clays, Loams, and Gravels, and in most other Soils, except in wet, marshy and low, vale Grounds; here indeed the Aquatick claims the best Pretension, as out-doing all others in quick-I am very fensible of the two ness of Growth. Objections against a Beech Hedge; the first is, that after its first making, it will not grow so fast as others, as hating to be check'd of its Tree Growth. To this I answer, That considering it will grow on a Chalk, where nothing else will thrive so well, it ought to be preferr'd. Secondly, That as it is

was laid on, some Horse-litter should have been put between the Mould on the top, to keep the Frost off, or the Sun from drying their Roots the fucceeding Summer. In this Hedge I planted feveral white Thorn Sets, and both Sorts grew very well, having the two great Advantages of untry'd Earth, and a Ditch to receive the young Roots; the former by its rich nitrous Quality, and the latter by shading, and watering the new spreading Fibres. I also took care to pull up my Sets in an adjacent Wood, in a moist time, for then so much Mould kept to their Roots, as to secure them from being dry, which I presently transplanted (I think) in October, as the best Time in the whole Year; for then the Severities of Winter not being come on, the Roots directly struck into the Ground a little, and thereby were capable of defending themselves against the Extremeties of Frosts and Colds. Sheep, nor any other Cattle must have Access to them, the first two or three Years; for if they have, it's very likely they will destroy them, by their biting the Top or Side-shoots, or else to rub them with their Oily Wool, as to venom and impede their Growth; and these are not only an Enemy to the Beech, but indeed to all forts of Vegetables in their Youth, from the Oak to the Shrub; and ought more than ordinary to be prevented here, because these being of the Tree kind, instead of running expeditiously upright, will get a broufy, bufhy Head, like the shrubby Sort, that now grows on Wiggington Common by Tring, occasion'd at first by the Cattles Bite, or the Peoples untimely Cutting, for here they have free Liberty at certain times fo to do; and then the Beech makes not a quarter Return of Profit, as they will if they get high enough out of the Cattle's way with their Topshoots: Upon this careful Management, while in

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of the Timber Tribe, it is apt to fart and bulge out in itsPlaishes, and so become hollow, that Sheep may get in. To this I answer, That it is true, as it is of the Tree fort, it is apt to get out of the Course its Plaishes were first laid in ; but when this Hedge is made by a judicious Hand, it will in a great measure be prevented, by observing that these Plaishes are not left too thick in Substance, where the Chop or Bend is made, for if they are, then by its Strength it will raise it self up; but when at the Cut or Bend of the Plaish, it is left thin and slenderer than generally other Wood is, it will lie in its due Order; and if white Thorn is made every second Plant, it will so fill up any Hollowness that may happen on this Account, as to prevent those Inconveniences; and if the Owner thinks fit to let any Master-plant stand to become a Tree, he has here that Opportunity, by fingling them out, and letting them keep their Tree Growth. Before I conclude this Chapter, I have only this to hint, that a Carpenter who was to lay an Oakenthrashing Floor, put half the Planks into Water, two or three Weeks to foak out their Sap, and then laid one that was not wetted near to another that was, to prove the difference; it happened that at fifteen Years end, that the foaked ones were as found as at first, when the others were very much rotted.



CHAP. VIII.

The Nature, and Improvement of the ELM.

THE two forts of Elm I here write of, is the common Elm, and the witch Elm, without taking further Notice of the Dutch, than that it is inferiour to both these in its Returns of Value; or of the Seed of this Tree, which is so much disputed by Virtuoso's, otherways than what it is allowed by some of our observing Country Farmers, to fall from the Tree somewhat like a Buttersy's Wing in April or May. But as I never knew it practised, to raise Elms by Seed, I shall insist on the common Method of propagating them by Sets, and transplanted young Trees.

These Sets are generally got out of Hedges or other Places, from the Bottoms and Sides of the Elms, but better and in more abundance after an old Tree has been lately fell'd; which should be drawn very carefully in wet Weather in October, when the Mould about them is in a loofe Condition; for then it is we have the best Opportunity, without forcing or straining their Roots, which certainly is a great Hindrance to their future Growth, and not only this, but all other Vegetables whatfoever fusfer upon this Account; and I have often feen the very Skin, or Rind of the young Roots left behind in drawing, and then they'll never grow, at least never make good Trees; so that where they can be dug up with the Spade or Mattock, and some Mould preserved about them, they are then in a true State of Transplantation

tation; and where they can only be had very small, they may be enlarged by planting them in a Nurfery-Bed, a Foot afunder, in Rows two Foot distance, there to remain two or more Years, till their bigness answers your Pleasure; and then only to make use of the best rooted ones, whose Side-branches in the Nursery have been carefully Pruned from time to time, which gives the Root more Power to forward the Growth of the Body and fingle Head, than if there were a number of lateral Shoots; and next to this Caution, is another as necessary; that the small Fibres, or Roots of any Set must never be suffered to be dried before they are transplanted, lest it prove fatal to them; and this I ardently press, because I am sensible, the want of Care in this particular Article, has not only been the Ruin of many attempted Plantations, but has deterr'd others from the like laudable Design; and therefore in case the Sets are got at some distance, I advise the small Roots be directly foaped as foon as drawn, which will preferve their native Moisture in them, till they are again replaced in the Earth; or else to wrap them up in a Bundle of wet Straw, or in a Sack; the first of which ways will keep them in good Order, if fent by the Carrier one or two Hundred Miles.

This Wood in particular is so prone to grow, that if an Arm, or Piece of its Head, from sour to sourteen Foot in Length is buried in a Ditch or Trench, well manured before-hand, and covered shallow with Mould, it will grow; provided it be done when the Leaves are coming out, for then the Sap will run into Shoots; and also, if a Place or two are left open in such a Piece for the Shoots to come out at, as we do to encrease our Sallows,

3c. in Hedges and Woods.

But to be quicker in the Enjoyment of this Tree, young ones are often bought of the Nurse-

ry-men, seven or eight Foot high, and three Inches Diameter, more or less; or if they are as big again, they are better; which when well rooted, and safely transplanted according to Art, they will in about sifty Years time be at their sull Perfection; to accomplish which, take the following Directions.

If this Tree is to be planted in a Hedge, it may at the making of it be put into the Ground, at ten or twenty Foot distance, or as near as you please, for of all Trees, I never saw so many grow To large, and flourish in a little Room as these will, even almost close together; as may be seen about those Grass Enclosures, at the bottom of Ivingboe in Bucks; which fertile Property of the Elm, I take to be owing to its being kept under a narrow Head, that is more agreeable to this Tree than the Oak, Beech, or Ash, or by its natural growing so, or from its succulent, juicey Quality, with which it abounds more than any other Timber Tree; and if I am right, the Bark of this Tree is rougher, thicker, and more spungy than any other, which causes great Quantities of Water to lodge therein; for it is feldom feen that the Water runs down this Tree like another; and therefore 'tis probable, that the Elm receives a greater Share of Nourishment from the Rain, than any other Timber Tree doth; besides, as it is a Tree that bears no Fruit, its Sap is wholly expended in the Production of Wood and Leaves.

The Elm, as it affects a damp or wettish Soil, more than any of the Timber sort, its Wood is of a more spungy, soft and tough Nature, which makes it excel all others in Pipes, Pumps, and other Water Works; will lie two or three Years abroad, without suffering by Worm or Sun; and in that time, the Sap will become reddish like the Heart, which fits it the better for making Bowls,

and

and other hollow Ware, that will last longer of this Wood, and sell for more than either Beech or Ash; Dressers also, and Blocks of Elm, will not break away by Chops, nor will their Stocks in Wheels so soon crack and split, as other Wood will; it hardly refuses any Ground, for even in the moift, clayey Chalks, this will grow, but not in the dry, hurlucky Sort, and best in the black, moist Loams; on all loamy Clays, wettish Gravels and Sands, and in many low, watry Places. They are at this time much in Fashion, for making Avenues and Vistoes to Gentlemens Seats, where they will the best of any permit their Heads and Sides to be cut into diversity of Forms, which taking up but little Room in the Air, affords a fine, green and lasting Prospect; but the main Matter is to plant and preserve this Tree a-

right: To do which,

In case it is on a Grass Ground, pare off the Turf thinly, for two, three or four Foot diameter, more or less, as your Tree is in bigness; put that by it felf, after this put the Turf the Grass-side downwards, all over the Bottom of the Foss, and the Mould over that: Upon this Surface plant and bed the Roots of the Tree; then bring more Mould, and raise a Border six, or twelve Inches high, according to the spread thereof, putting Horse-litter, or Fern between the upper Mould, and leave it dished or hollowed on the Top, and also some on the Top of the Border, all the next Summer to preserve its Roots from the too powerful Rays of the Sun, except the Tree is planted in a low, moist Ground; then indeed such top Cover may do more harm than good, by hindring the Earth about the Tree from enjoying a free Perspiration, which is persectly necessary to the Growth of all Vegetables, The

The next thing is to secure the Tree from Catsle and Winds, which to do, I think it is not enough to fay --- Stake or Bush it up --- These are insipid Directions; but on each Side of the Tree, about a Foot from its Body, drive a thicker Stake into the Ground, than the Body of the Tree is, so that there may be four or five Foot out of it; then nail Ledges or Cross-bars against each other, two at top and two at bottom, and stuff some Grass or Hay between the Bars and the Body of the Tree, to keep it from Galling; and then draw Thorn-bushes perpendicular through the two Pair of Ledges, letting the Top of them remain two or three Foot higher than the upper Bars, the better to keep Cattle from rubbing. This Method will not only fustain the Tree against Winds, but all other Injuries from Beaft and Vermin; here likewise is free Access for Water, or Weeding, and for Hoeing, if that is thought pro-This Repetition I have again inserted, that it might be better remembered for its great Usefulness.

I planted a Bergamo Standard Pear Tree, that I bought of a Gardener for one Shilling, just after this manner, about four Years ago, on a gravelly Soil, on the Baulk or Hedge-green of a ploughed Field, near half a Mile from any House, where it was never yet watered by me, and yet I think it is as flourishing a Tree, as most in England of its Age: But I must needs say, where a Well can be conveniently sunk, not exceeding thirty Foot deep, there an Elm Pump may be placed to supply by a Water-cart, and Leather-pipe, the Growth of this new Plantation, and then it is likely they will get the start by much of those Trees that are not thus artificially wa-

tered.

It is arable Ground whereon you are to plant these Elms; then it should be first manured very well with old rotten Dung, and ploughed several times, till it be got into a perfect Sweetness, Hollowness, and Fineness; on this plant the Trees even upon the very Surface; and then bring good Mould, and raise a Border after the same manner as before directed.

Such a Plantation may be contrived to great Profit, by planting the Trees in regular Rows, in October or February; and the Ground about them laid down with Grass, and not imployed in Grain, which in my humble Opinion, is far preferable, as I have found by Experience; because this will feed Sheep, whose Dung and Stale is of most Virtue in the Nourishment of all Trees, and are less capable of hurting them by their Rub. than Horse or Cow; but then especial Care must be had that they can't come at the Body of the Tree with their Oily-wool: Nor will the Roots of this Tree exhauft, and draw away the Goodness of the adjacent Earth, as an Ash or Oak will, whose Roots run both deeper and broader in the Ground; but affords a pleasant, healthful Shade by its Head and Body, to the Cattle about it; free from those voracious and infanous Qualities, inherent to the Oak, Ash, and Walnut. These Trees then so planted (with their Heads cut off, or some left on, as the proportion of their Roots will admit of) will amount to one Hundred and Eight on an Acre, at twenty Foot afunder, which at their full Growth modefly may be computed worth forey Shillings each, at one Shilling per Foot, though the current Price is from ten Pence to eighteen Pence, according to the clearness and goodness of the Body; which with the Benefit of the Grass between them, must amount to a brave Sum in that time ;

time; confidering fuch Land whereon they are planted, may not be worth fix or eight Shillings an Acre; and indeed it is Pity that more Hedgerows are not planted with Elms; because as I said before, they don't damage any thing about them, as some other Trees do, whose Heads must not be trimm'd up as these may, and yet so profitable, as to be worth in time five or fix Acres of Land, that they may thus enclose.

This Tree when aged, or otherwise requiring a Renovation, by cutting off its Arms and Head, they then should be cut close to its Body, else the Stumps in time will become rotten, and convey the Water too freely, even to the Heart of the

Elm.

As the Elm is not a proper Plant for raising entire Hedges to fence our Field with, I shall defift enlarging thereon, as being a Subject rather belonging to the Gardener's Province, where it is now more agreeable in Hedges for Walks, Ave, nues, &c. for according to the Proverb, A Shoemaker ought not to go beyond his Last: 'Tis therefore that I think a Gardener and Farmer are different Professions, altho' their Business has an immediate Concern in Vegetables, and I believe are equally Strangers to each others Affairs.



ni ban Q' na mur Hiv 6 H A P. Part or the Parth, beyond any other;



CHAP. IX.

The Nature and Improvement of the Witch ELM.

Parks, because of its agreeable Bark, which the Deer greedily eat in Winter, and have so great a Love for it, that they will string it with their Mouths to the last bit, and prefer it to the Ash. Thorn or any others: It is a Tree that grows to a great Bigness, even to sour or sive Foot Diameter in its Body, and will prosper either in Standard, Pollard or in Stems, in Copses or Hedges, where they will grow in many fine, high, strait Poles and Shoots, expeditiously and large: The Wood of this Tree is tougher, and more durable, than the common Elm, and serves to make Goach-stootings, Gates of Fields, Somers and Jeysts, &c.



CHAP, X,

The Nature, and Improvement of the As H.

THIS is a most useful Wood to the Coacher maker, Wheeler, Cooper, and Numbers of other Artificers; and is one of the quick Growers, because its Roots, if high enough planted on the Ground, will run and spread in the uppermost Part of the Earth, beyond any other; and thereafore

fore it's become a Rule amongst the Judicious, not to plant or fuffer any Ash to grow near any ploughed Ground, because of its voracious Nature, and the great Suction it makes in drawing out the Goodness and Heart of the Ground, to the depauperating the Land, Corn, and Grafs that is in reach of its horizontal Roots; and yet this Evil is very common, but chiefly owing to the Ignorance of the past Age; however it has so deterr'd many of the present, that they abhor the Sight of an Ash that grows near the Corn Grounds; wherefore, to avoid the Curfe, and enjoy the Bleffing, the best Places to procure the Growth of Ash, is in Forests, Woods, Coppices, Parks and Commons.

To get a Wood, or Copfe of Ash, it may be done three feveral ways. First by sowing their Seeds of Keys (that have been preserved all the Winter in moist Sand, to keep them from shriveling) over a Piece of well manured and ploughed Ground, which must immediately be sown over a gain with Barley; these two will so well agree, as not to hurt each other; for the Ash will not appear till the succeeding Spring, so that the Barley may be got off as at other times; after which, the young Ashes may be hoed and thinned at Pleas

furc.

Secondly. But which I think is much better, when the young Ashen Trees are sown, there may at the same time be sowed both Acorns and sweet Portugal Chesnuts; these likewise will be of hard= ly any Prejudice to the Corn, because in the first Summer, they'll only be employed in firking Root, under the propitious Shade and shelter of the Barley; and if a little of the Seeds of the Acorn or Chesnut should appear at mowing Time, the Scythe may eafily pass over them: Now these two Sorts are certainly the properest to keep the Ash company, by reason they strike their Tap of Master-roots very deep into the Earth, to seek their Food in a different manner from the Ashes, that may be left at five Foot distance each, and then one Thousand Seven Hundred and Sixteen

will grow on an Acre of Ground.

Thirdly. If it is thought better to get a Wood from the Set, or young transplanted Tree; then the Keys may be gathered in October or November, and directly fowed on fine Mould in a Nursery, and covered an Inch or two deep with Earth; the second Spring following they'll come up, and afterwards may be transplanted in another Bed, and fo brought up to your Defire: But here we gather the young Sets out of our Woods, about a Foot, or a Foot and a half long, or more, and Transplant them forthwith; in this Management, great Care should be taken to get both them and the Keys from the Female-ash, because that grows much sooner to a large Body than the Male; now the Female has generally a clear, white, smooth Bark, but few or no Keys, and loves low Places: The Male has a rougher, knottier Bark, and harder Wood, has more Seed, and is more tedious in its Growth. It was about ten Months fince, that an Acquaintance of mine bought an Ash at North-Church Common, that contained Six Hundred Foot, Four Hundred Thirty Eight of which, he paid one Shilling per Foot for.

Now the Method of Planting a Copie Wood, I have feen in a Gentleman's Ground near me; first they manured it very well, and ploughed it into a fine Tilth; then they gathered it with the Plough into Ridges, at fix Foot distance, whereon in October they planted Ashes, at twenty Foot asunder in Lines; and Oak, Chesnut, Hazel, Sallow in the same Row close together; the Ashes were about eight Foot high, the rest small Sets; these

all drawing their Nourishment from the Earth in a manner peculiar to each other, doe not fo depauperate it, as if they were all of one kind, notwithstanding they fill all the Surface with their Roots; and therefore a Copfe Wood promisedoufly Planted, will endure much longer than if it was all of one fort; and here is an Opportunity allowed between the Rows, for the Hoe to be imployed, and the Ground kept clean from Weeds. and Manure laid in the Interspaces, to the great Improvement of their Growth; and by this the Trees will force one another into the Air, caused by their close Planting; where by the Drip of their Heads falling upon their Under-shoots, and the great Cover they are shaded with, their lower Arms will be kill'd or spoil'd, so that their Sap will be chiefly employed in the Growth of their Bodies and Heads; and then the Underwood will be fit to fell in nine, twelve or fifteen Years; as it is wanted in bigness; the proper time for which; is from November to the beginning of March! But here I must take Notice of a pernicious Neglect. that too frequently happens to the Ash Poles. which are generally put together after they are cut into upright Parcels in the Wood, and there let remain till they are fold: Now if they are not carried away before March, a little, black Fly, that comes in Swarms about that time, or in April, will seize on and penetrate into their tender Bark, and there in a little time become a finall Worm, that afterwards will gnaw the Wood in Rings, so that the Cooper cannot bend them for Hoops; but when the Fly has but just taken them; the Cure is to throw them into a Pond, and let them lie two or three Days, till they burst and die. But the best Prevention of all, is to keep them in Cover presently after they are felled.

Of the Pollard Asm.

N Commons, in Parks, or in any other Grass Grounds, this Tree has an advantage of all others from its many and long Roots, which by their circular spread, and high lying almost on the top of the Ground, are more than ordinarily capacitated to receive the fertile Benefits of the Horse, Cows, Deers, and Sheep's Dung and Stale, which is more or less obtain'd as the Situation of the Tree, and its sheltring Tread invites the Cattle to shade themselves under it. The Pollard Ash, is that which is made by entting off the Standard's Head, and should be lopt for that purpose, before it arrives to a very great Body; else the Wets will be very apt to get in between the Rind and the Body, before the Wound can obtain a new Covering, and fo rot and perish the whole Tree in a thort time; and afterwards all Lop should be cut off the Head of the Pollard, at nine or almost at twelve Years end, before the Shoots get too big; for certainly the younger they are cut off, the sooner the Wound is covered, and the longer it will continue in a healthful, bearing State; but it has been observed that the Ash, as well as all other forts of Pollards, grows flower in its Body, than they did when Standards; because the Sap which should cause its Bulk, is employed in nourishing new Shoots. This Lop, when green, burns the best of any, which makes the Country Folks rhime it, and fay, It's Fire for a Queen. It is also of vast Service among Deer, especially in hard Weather, when it serves as a fort of Sublistence to them; for on its fost Bark, both they and the tender-mouth'd Heifer, will bruise and peel the Arms, and Boughs quite clean.

Of ASHEN Stems.

IN many Hedges, numbers of these are seen to grow, as the Successors of cut down Trees, but whether they are here by casualty, or planted on purpose for this Use, it is wrong Management; for these Shoots that grow directly from the Stem, rob their Neighbour Plants fo much by their luxuriant Roots, as to impede and hinder their keeping Pace in Growth with them, which causes its Head to spread, top, and drip on them to their great Prejudice: It is these that are more covered by Cattle, beyond any other in the Hedge, and therefore more liable to be cropped and funted, which abliges us to preferve them for the first two Years after outting, till they are out of the Cattle's Reach, though at best they make but a hollow Part in the Hedge, and often give room to Sheep and other Beafts to find a Passage into neighbouring Grounds; so that the Ashen-stems are indeed fit to grow no where elfe but in Woods and Coppices, and here they turn to a great Account, in the Production of the best of Poles for the Coopers and Chair-makers, by letting them fland eighteen Years, which is twice the time that is allowed to Sallows, Hazels, Maples, 83c.

Of the Standard Asn.

THIS is still more parnicious in a Hedge than either the Pollard or Stem; for this, by its unintersupted Growth, gets a greater Head than the rest, and so is more capable by its venemous Drip, to demage all others that are contiguous and inferiour to it. But here the ill Property of the Ashidoes not end, for its Leaves are of

of fuch a disagreeable Nature (I can't say how unwholesome) that I have known a considerable Quantity of Stout-bear spoiled, by brewing with Pond-water wherein its Leaves sell; and not withstanding the Beer had above a Year's age, yet neither that, nor the strength of the Hop, were able

to take off the Leaf's nauseous Taste.

When this Tree by mistake has been suffered in a Hedge, or otherwise, to grow so near the ploughed Ground, as to prejudice the Land and the Grain that grows thereon, by its Roots; then the best Remedy next to its total Extirpation, is to dig a narrow Ditch, and with a Mattock to cut off all its Roots to the outfide of the ploughed Ground for about a Foot or two deep, which is full enough; because at a greater Depth, they can't hurt the superficial Part of the Earth; then fill in the same with the Mould that came out: Thus you may keep any Ash from hurting the Land, especially if there is a Balk of Grass between the ploughed Land and the Body of the Tree, as there is in most of our Hertford/bire Inclosures.

And notwithstanding this Tree is known to spread beyond all others, yet some of its Roots have been sound to run sisteen Foot deep into the Ground, and will, like most others, grow saster in the best Earth, which it will insallibly peel, though it will grow in most Situations, from the Tops of Hills, to the Flats of Vales; and where a knotty, sound Tree happens (as they often do) to be well grain'd, they are of considerable worth to the Cabinet-maker.

The Seed that is in the Keys are flat, somewhat like that of a Cucumber, and is carried by the Winds, the distance of some Poles from their Trees; but this is not all their Conveyance, for these Seeds being much loved by the great and finall Birds, are by them carried to diffant Places; where they peek out some and feather the rest, and in this manner they have been known to seed a Piece of Ground at Dagnal, near half a Mile of the Wood where the Trees grow: Some again have enjoyed Plantations from the Seeds that were blown by Winds; others have had the Benefit of some thousands of Pounds from their Produce,

and all of their own planting.

The Rinds and Tops of the young Ashes, even when the Trees are a Foot diameter in Body, are so coveted by the red and sallow Deer, that large high Rails are frequently put up in Parks, Forreits and Chaces, as Guards against these arch Enemies, Sheep also will debark the young Trees and Shoots in Hedges more eagerly when they are satting on Turneps, as being a cool, refreshing Food, contrary to the hot, bitter Turnep. The Mice too, the a small Creature, are great Destroyers of the young Ash at all times, but more in Snows, for then the Woodmen have observed that they have peeled an Ash, from the thickness of a Thumb to a Fork-stale, a Foot above the Ground.



CHAP. XI.

The Nature, and Improvement of the WXINVI.

Fruit affords, deserves the presence to some others for a Plantation; and now more than ordinary, because of the great Numbers that are frequently

frequently fell'd for the Lucre of the Money, that their valuable Bodies raise to Successors of better Husbands than themselves; their price being from one, to two or three Shillings the folid Foot. according to the fineness of its hearted Grain, in Trunk and Root at forty or fixty Years old, when these Trees are generally at their full Perfection, and fometimes one of them is fold to the Cabinet-maker for thirty, forty, or fifty Pounds; and as the Root is often a valuable Part of this Tree, it should not be sawed or cut down at Bottom, but stock'd and grub'd entirely up. Nor is the fappy Part without its great Uses in Stocks of Guns, Chairs, Wainscot and other Works, that the several Artificers make exquisitely fine, when done over with its own Oil very hot, made by expression of the Kernels, that are said to yield three Quarts from a Bushel of its Nuts; these may also be preserved for eating, in covered Pots put into the Ground, so that the Wets can't annoy them, and then they'll keep nine or ten Months, and eat near as well as at first; or if they happen to be dry, it's only putting them in warm Water a little while, and the Kernel will swell, and be almost as good as ever.

Their Sorts are two, the English and the French, the latter is a large, thick-shell'd one, and is best for pickling and preserving; the former a smaller sort, but much sweeter kernell'd, and may be planted in grass Grounds at forty or sixty Foot distance, by taking off the Turs and laying it by it self, then take the next Mould a Spit deep and put that by it self; then put the Turs the Grass downwards, and the Mould that came out on that; in which put sour or sive Walnuts so far within, the Earth as it may just cover them, if the Diameter of the Hole is three or sour Foot: These Holes thus made and planted, must be securely

fenced by outside, general Railing the Field in, or particularly round each Hole, so that there may be free access of weeding them; afterwards the Master-plant may be left as a Standard-Tree, that in time will make both pleasant and profitable Walks; and thus this Tree will by far out-grow all transplanted ones, as I have to my cost experienced; for it is now near twelve Years fince, that I was tempted to purchase a Parcel of about twenty Years old of a Nursery-man, some of which to the best of my belief as big then as now in their Bodies, notwithstanding I planted them in a rich Loam, and three Years ago cut their Heads off, leaving at the same time a few Shoots on, to draw up the Sap; fince which they have shot very strong, and now are like to make fine Trees: But if the Nut had been thirty two Years ago put into the Spot of Ground where they now grow, I doubt not but they would have been a Foot or more in Diameter of their Bodies, which are not above fix Inches in the biggest of them.

Or if they are to grow in ploughed Grounds, then it must be well manured and ploughed fine, before the Nuts are set in at Nature's best time, which is as foon as they are full ripe; or if kept till Spring, they must be preserved in Sand all the Winter, and by some they are steep'd a while in Milk, just before they are planted in February, and then they will agree and thrive best in marly Grounds in the Vale; and also will grow in Chalks, Gravels and Loams, and in most Situations. And as I am now writing of planting Walnuts in ploughed Grounds, it is necessary to mention the great Inconvenience that attends the ploughing of the Ground between them, which by confequence must happen, although the Trees be at eighty Foot distance, and that from the often passings, and near approaches of the Plough, Horses and Harrows

And here I will appeal from the Theory Wrie ter, to the Man of better Judgment, whother the Roots of fuch a Tree, that is to run even with, or just under the Surface, can make its horizontal Roots, and not be impeded by the often repairings of the Plough, that should penetrate the Earth with its Coulter and Share, a Foot deep at leaf in some fort of its Operations? If it should be objested, that at that distance they need not come so near as to hurt them: I answer, That such a Plantation is liable to be hurt by to many Accidenta that may happen from the Horsen, Ploughs, Carts, End-turnings, and careless Drivers, as is enough in my opinion to discourage any fuch Undertake inge: I must own I have seen some such Practice in the old Kentift Orchards, but it must needs be, where Trees have been planted too deep at first for want of better Skill, which is the reverse of the present Management; and therefore I advise all such Ground in the Interspaces, to be fown with Clover and fine Meadow Hay-feed, & n. as is directed hereafter in the Subject of that Grafs, in order for making fuch arable Land a good Sward.

So also for that wrong Notion of planting these Trees in Eledges, contrary to the Rules of good Husbandry, as is well known to those Occupiers of Farms, whose Interests are concerned in the returns of their Wood and safe Foncing, that the thick, tall Growth of the Hedge is the sole Oceanion of: Now both these great Benefits I will prove are in part destroyed by such Trees; for first, the Drip of all Heads of Trees are more or less permicious to the under-shoots, as they are narrowed by broader, and of a good or bud fort; this is of the visible in the thicker Woods, where the lower Arm (as I have said before) and Branches are notted by the Shade and Falt of Water from the upper Boughs, so that only the top Part of the

Tree thrives, that enjoys a free Air and Sun; and thus it is in proportion with all Hedge-wood, that is under a Tree's shady, dripping Cover.

Secondly. The Room of all such Trees, by their bigness and extent, have a superior Power to imbibe and attract the Fertility of the contiguous Earth, whereby the Underwood is hindred in its Growth; and here it is that Cattle take the Advantage of such weak, crippled Boughs, to make a Breach into neighbouring Grounds, where in one Night's time sive or six Cowser Horses, or a Flock of Sheep may do twenty Pounds damage; but this is not all, for Boys and others generally spoil a Hedge to come at the Fruit, as being encouraged thereto by this remote Planting and free Access.

And for these Reasons it is that many are so far from raising Trees (the Fruit sort especially) in Hedges, that they have destroyed great Numbers that have been sound planted by their Predecessors. For I have known a Hedge where Sallow, and white Thorn have grown without the interruption of Trees, that forty Poles at nine Years end have returned some Hundred Faggots.

worth twelve Shillings a Hundred.

Indeed where a Person is resolved to multiply Wood in Hedges, and prefer his Fancy to his Interest, then I must contest that an Electron its narrow Head that it may be kept to either by the cut of the Bill or close Planting, or from its small Leas, will do less prejudice than many others. And likewise the black Cherry-tree, by the Farmers in this Country, is deemed to do the least harm in a Hedge of any Fruit Tree; because the Drip of this Gummy Tree is not so insanous and venomous to its Underwood, as is the Ash, Walnut, &c.

It is therefore that I have been induced to plant feveral Rows of Trees on grass Baulks, or hedge Greens Greens of ploughed Fields, within about fix Foot of the Hedge; and that because their Roots may the better enjoy the Virgin Mould under the Turf, and the Benefits of the Highway or Ditch, that in time they may penetrate into, without any confiderable hurt to the Hedge from their Roots or Heads; here also they are more safe from the Rapine of Thieves; the Fruit more commodiously gathered; the Windfalls better secured, and the Cattle more conveniently lie and shade themselves under their Boughs, to the great Enriching of such Trees by their Stale and Dung.

THE RESERVE OF THE STREET OF THE STREET

CHAP. XII.

The Nature and Improvement of the Black CRER-

SEVER AL good Properties of this Tree having slipp'd the Knowledge and Notice of Authors both Ancient and Modern, I shall be the more singular in the Illustration thereof; and because this County of Hertford does certainly more abound in Plantations of the common Black Cherry Tree, than any other in England, and particularly the western Part where I now live, is as samous for the Black, as Kent is for the Red or Flemish Cherry; and this I can't do, I think in a better manner, than to insert the Copy of a Case I drew up above a Year since on that Account, viz,

REASONS humbly offered in behalf of the Counties of Hertford, Bucks, Kent, &c. for encouraging the Growth of the Black and other Cherry-Trees.

THAT by the late Act of Parliament for prohibiting the Consumption of the black and other Cherrys; the said Counties are miserably distress'd; For that the Black Cherry in particular, having many singular Advantages belonging to it, is, by the disuse of it in Compound Liquors,

rendered of little or no Service.

Whereas this Fruit is in it self of that healhful and cordial Nature, that it is a Corrector of several sorts of Liquors, particularly in Molosses and Malt Brandies; also in Beer their Excellency is found, as well as in the wholesome Wines, Syrups, and distilled Waters that are made of them, whose medicinal Qualities are best known to the Physici-

an, Apothecary, &c.

The Black, wild Cherry, for many Years past have been a fort of Harvest, both to the Owner and the poor; to the first, in that it is a Fruit that most opportunely precedes the Corn Harvest, and thereby is of such Consequence to the Farmer's Interest, that it often returns Money enough to defray the Charge of Inning his general Harvest: The latter are employed in gathering them as they successively ripen, and so become a Subsistence for some time to their poor Families.

The Higgler also that buys them, shares in their Advantage by turning the Penny at the London Market, where they are generally twice retailed, and where the Distiller used to furnish himself for making a Spirit from this Fruit, and correcting

his Brandics by their falubrious Infusions.

The

The Black Cherry Tree in particular is also endowed with several beneficial Qualities; for it is a Wood that is next serviceable to the Oak, for the inside Buildings of Houses, Barns, &c. And because of its long Duration, and Strength, is of Service to the Commonwealth in general; and for its fine red colour, which is encreased by letting it lie two or three Years on the Ground after it is cut down; and then it so nearly counterfeits Mohogony-wood, as hardly to be discerned in the difference, both in its Grain and Colour, by the help of a certain Liquor that the Joyner stains it with.

Again this Tree of all others is the most common and the eafiest introduced into our Woods and Plantations; here the Rooks, Jays, and other Fowl bring and eat the Cherry they collect at fome distance; the Stone whereof falling to the Ground . in a moin, shady Place, comes up spontaneously and better than if planted, and often thereby obtains a luxuriant Tap-root; from hence as from a Nursery, we are supplied with healthful, thriving Trees, which we plant upon our Commons, and in our Fields, in regular Rows, and there improve them by grafting and budding with variety of the best force, which of late several have been found to bear constantly on these Standards; as the Mayduke, white-hart, Black-Orleance and the Morella: and this last which is the latest of Cherries. has a peculiar Quality belonging to it; it is this that makes the most pleasant Cherry Brandy of all others by its infution, even to come up very near to the Liquor called Turkip Villey, that used to be fold at London for twenty Shiftings per Gallon; befides the Black Cherry Tree on a proper Soil, and when right planted, is of to quick a Growth, that we reckon it is at best in about forty Years, from the time of transplanting. And

But in the Year 1730, there happened many miserable Instances of discouragement, that this fine, useful Fruit met with; one being by a Tenant between Chipperfield, and Rickmansworth in this County, who paid in part of his Rent twenty five Pounds per Annum for his Cherry Plantation; and after having gathered such a Quantity as to lose five Pounds by them, called several of his Neighbours to view the remaining part left on the Trees; and, as I am told, they computed them to be about two thousand Dozen which he left to spoil, as not defraying the Charge of gathering: And near Watford there are some that have paid above thirty Pounds a Year to Cherry Gatherers, (as I am credibly inform'd) and my very next Neighbour has received ten Pounds in one Seafon clear of all Charges, for Black wild Cherries, though his Farm is worth but fifty Pounds a Year; and I can fay, that I have fold the Fruit only of one Tree for a Guinea, and the Buyer gathered the Cherries.

And not a little has been the Cry of the Poor, as well as the Complaints of the Farmers; and I doubt not but those Landlords who are concerned in Cherry Grounds will be more sensible of this, when their Rents sink, which is now more likely

These

These Trees we transplant out of the Woods at seven or eight Foot high, and about two or three Inches diameter, in October or February, without their Heads, which forwards their making new Roots; so that the second Year following (and sometimes the first) about a Fortnight after Mid-summer, we bud on their new Shoots, what sort is liked best; by taking the largest Buds about an Inch in Length off the strongest upright Shoots, and with a very quick Slight before the Sap is dry, put them into a little Incision of that Size first

made in the Bark, like a reversed L, on which nicety depends very much the good or bad Growth of the Aster-head; this we bind about with Yarn very exact, that all Parts of the Bud and Bark about it, may touch and receive a Communication of the Tree's Sap; then at a Month's end, we take the thing very gently off; and about Christmass atter that, cut the new budded Shoot off, sour or six Inches higher than the Bud; on the contrary Side, with a Slope that the Water may not descend on the Bud, which likewise must afterwards be kept free from all natural Shoots that will be sure to

make their Attempts.

There are many forts of Cherries, as the Kerroons, Orleans, Morella, Great-purple, Littlemay, Crown, Cadilliac, Pomegranate, Carnation, Egriot, Merry, Cluster, Spanish, Amber, Nonfuch, Naples, Biggarreaux, Kings, Prince-royal, Arch-duke, Common-duke, May-duke, Biquar, and Dwarf; The four forts of Harts, Lukeward and Gascoin, besides the Kentish or Flemish Cherry: Of all which Number, I only make use of the Kerroon, Orleans, Carnation, Kentish, the Harts, and the May-duke, and of them I think the Kerroon excells; this is a large, shining Black, with a leffer Stone and more Flesh than the Harts, will thrive in any fort of our loamy Grounds in the Chiltern, and will best bear a long Carriage: but like the Beech, refuses most Parts of the Vale, and to does all others that I know of, except the Mayduke; that lovely, great, red Cherry, that comes early and bears constantly. These budded Cherries are now vaftly improved, not only in young, but also in old Trees, whose Heads are cut off about Christmas, leaving a few Shoots or Boughs on, to draw up or employ the Sap (otherwise they often die) which the very next Summer will throw out new Shoots, that may the Summer following

following be budded to quick Profit, as I have done by several of my own that are now fine Trees. Of these improved forts, both young and old, I think I have between two and three Hundred growing in my Fields, that annually require to have their Moss rubbed off, and their Hoop-outward Bark just slit down with the Point of a Knife in April, so that the inner one be not wounded, lest the Gum issue out, and the Tree die or pine: This is of fuch consequence, that a Tree will grow in Bulk more in two or three Years when so served, than in fifteen if let alone: But no hox Dungs must ever be used to the Roots of this Tree, for it is entirely contrary to the Nature of the Cherry, that always affects cold Soils more than warm ones.

These, as well as some other Trees, sometimes fuffer by the Honey-dews in the latter Part of the Spring, and in Summer, by their falling on the Leaves, and there, by its corrosive Nature, furl them up, and breed the green and other Flies, that afterwards greatly hurt the Fruits of the Earth, and the Cherry in particular, and are called by the Country-folks Ladlemen, because they hollow the Cherry by their bite, and cause it to fall; these and Caterpillars will sometimes so feed on the very Leaves, that they will be almost caten up. The best Cure for this is burning Straw under the Tree, or throwing or squirting a Quantity of Water on it. There is also another Blight occasioned by the easterly and other Winds in the Spring; these will sometimes, by their frigid Potency, oblige the Leaves to turn yellow and fall off, so that the Tree will be almost naked as at the approach of Winter; whereby the Blossom or Fruit often falls from the Tree, or grows small and infipid. Another Blight there is by the Vapour, Fogg, or Mists that arise from low Grounds, Q 2

Fruits; it was these that spoiled my Cherries this last Season, 1732. that grew in my bottom Grounds, which lying more from the Sun's Influence than the Hills, the Frosts and these by their long continuance in this Situation, prov'd destructive to the Fruit, tho' so late as in the Month of May.



CHAP. XIII.

The Nature, and Improvement of the HORNBEAN.

HIS is in great Reputation for both Copfehedge and Wood, and is planted in many Parts, but more abundantly about Whethamstead in this County, for its several good Properties, viz. It is a Wood that will grow on poor, hilly, gravelly and barren Grounds, and much more in a good Soil; but wherever it grows, in runs into fine, high, strait Poles at a moderate Pace, and they very close together, and is not of that pernicious Nature to kill his Under-Neighbour by dripping on its Head; as Sallow, Ash, Hazel and Mapel will, which makes this so advantagious both in Copies and Hedges; for that a great Number of Stems will grow and flourish in a small Quantity of Ground, and in Wood and Hedge will be fit to cut down in nine, twelve, or fifteen Years to good Profit.

Besides, in a Hedge in particular, this Wood is, by a strait, regular plantation of it, no less ornamental than useful; for here its unisorm, close, and tall Growth makes it preserable about Walks,

Gardens,

Gardens, Parks and Fields, where it will cary its Leaves to the very bottom: And here it makes a most noble Fence against the Trespass of Cattle; for in its Nature, nothing of English Woods excells it for hardness, but the Box, Yew, &c. the Plaish of it being so strong, that it will lie across in a Hedge like a Rail, and not yield to the Essorts of Horse nor Cow, as several of the aforementioned sorts will, which renders its Poles of great Use in Mills, small Rasters, Heads of Beetles and Flails, &c. and so far exceeds most other Fire-woods, that when it is burnt enough, the Coals will hold a bright Fire like Charcoal tor

a long time.

I found a few Stems in a Copfe-wood that I bought fifteen Years ago, but they are not so plentiful here, neither in Stems nor Trees, as in some other Parts: However, our Neighbourhood now have begun planting the Sets in their Hedges at the time of their making, and are most expeditioully raised by those of an Inch diameter; these may be also raised from their Seeds sown in October or November (that are ripe at that time) in ploughed Ground well manured and in a fine Tilth, or in Furrows made in strait Lines by the Plough at any distance; or by putting their Sets in a Bank made by throwing up Mould out of a Ditch, in a fingle or double Row almost close together (for Hedges are seldom too thick as I can find) which will be an excellent Fence in Grounds of Corn, Grass or Wood; and by thus planting the Sets, four Years will be got in advance, for the Seed will not appear till the second Spring after fowing. These Sets may be found at the bottom of Stems, both in Woods and Hedges, and planted in October; if in Woods, their Side-shoots must be only pruned off, but not their top but in Hedges they should be cut at fetting to fix Inches in Length, for then they will grow thick; or to be more fure of a strong Fence, White-thorn may be made every second Plant, as best enduring the drip and close planting of the Hornbean, and will by its more short Head, with the help of an adjoyning Ditch, so shade and moisten its Roots, as to contribute not a little to its speedy Growth.

The Seed in its Shape, Bulk, and Colour, is much like that of St. Foyn, and will hang in a Hedge in a mild Winter till Christmas. There are some of these Trees of a large Diameter in Luton Park, and in some other Places preserved as

Pollards, but are of flow Growth.



CHAP. XIV.

The Nature and Improvement of the LIME Tree.

THE Lime, or Lindon Tree grows very uniform in Rows to a great Bigness, where their Soil is a good Loam, or a Loam with a Clay Bottom, provided it is not in a wettish Place, for then it's apt to rot its Roots; or if it is a loamy Gravel, they will thrive very fast, but not in a sharp, hungry Sort, for that will starve their Roots; nor in the dry, hot Sands; because in the first Sort, where there is a strong, found Bottom, they will hold their Leaves till Michaelmas, but in the two last, they'll complain and be yellow a Month or two before that time. The Male and Female have different Productions; the Male has a small Leaf, and a fast, knotty Wood; the Female grows sooner, its Leaves larger, and brings forth fine perfuming Blossoms in the Spring with reddish Shoots, that

Year

that give a strong Invitation for its planting before Doors in Towns and Country, not only for Pleasure, but Health also, as being a very good Cephalick, and Assistant to the Nerves, to those that can enjoy enough of its delicious Scents.

It may be propagated by its Seeds, fown directly from the Tree, the latter End of October, or preserved in Sand and sown in February; or it may be encreased by Layers, buried in the Earth with their young Shoots in October or February, as the Elm is; or transplanted in small Sets taken from the Roots of old Trees; or if they are larger, and of a Foot diameter more or less, they will grow, provided the Heads are cut proportionable to the Roots; and this Caution affects all Trees whatfoever; for if the Head is left on when replanted, as was on it at taking up, it must not be expected that the same Roots will carry the same Head without languishing, if not dying entirely; because in this new Situation, the Roots have hard Work to strike in and naturalize themfelves; and therefore they ought to have the help of a light Mould, the better to run into, a little or no Head, that the Roots may shoot the stronger, and transplanted presently, that the Air dry not any of their Roots.

The Lime will not make proper Hedges for Fields, yet for Walks and Gardens it will answer very well in a close and beautiful Growth, but best of all in fine Avenues, at twenty or forty Foot distance; and then they will not only make pleasant Walks, but also prove a noble Shade and Shelter from Blights and Severities of Weather, if planted on the East or North-Side of a House or Garden, as those are in Astridge Park, where a long Row of tall Limes at ten Foot distance now grow, that measure three Foot diameter at bottom, and were there first set in the

Year 1660, on a loamy, high Ground, under which, about a Foot or eighteen Inches deep, is a red Clay.

This Wood is of a fost Nature, and therefore used by the Keel-maker, Carver and some others.



CHAP. XV.

The Nature and Improvement of the Horse CHESNUT.

WAS acquainted with one that had formerly been a Gardener under Mr. London and Mr. Wife, and liv'd a Mile from me, who about twenty Years ago put some of the Nuts of this Tree into Drills, or Holes, in a rich Garden Mould five Inches deep, a Foot afunder, and in Rows a Foot apart; these, after two Years were transplanted into a Nursery, in Lines two Foot distance, and about four Foot from one another, first cutting off their downright Tap-Roots; here they remained till they were seven or eight Foot high, and then transplanted where they now are; some of them grow in a circular Manner at twelve Foot distance, and enclose a Piece of Ground where Carpenters work; the rest were planted close to Park Pales at ten Foot asunder, to serve in time instead of Posts to support and fasten them to, for this Wood like Ash will suffer Mortaises in their Bodies without complaining, as all the Cherry and other gummy Sorts will; and altho' it is but twelve Years fince their being fix'd for good, they some of them are now above eight Inches diameter.

The Top or leading Shoot should never be cut off in Standards, only some of the Side-ones just before

before they leaf, may be pruned away to keep their Heads thin, and so prevent the Wind's Damage, that is often fatal to some of the Arms of this spalt, brittle Wood, that I have seen broke off, when almost all others have escaped. But where Hedges of this are planted for Ornament, at sour Foot distance each Set, several of their upper Buds must be annually cut off with the Knife, and not the Sheers, to make them grow thick and strong.

This Tree is of so quick a Growth, that it has been observed to Shoot an Inch in Length in twenty four Hours in all its Branches, which was proved by the aforesaid Gardener, by tying a Stick even with the Twigg; but this sast running is partly over after April and May. They will also grow to a large Bigness, as may be seen by those in Cashiobury Park. They will prosper in our cold Country on dry Banks, and on Mould that have clay or gravelly Bottoms, but best in the richest Earth.

In Hedge or Standards, it is excellent to the Eye at the Spring, when its clammy, turpentine Bud breaks forth into curious, divided hanging Leaves, and bear Clusters of beautiful Flowers that perfume the ambient Air, and after that, a pleasant Sight by their great Brown Nuts; but for its soft Wood I can't account for, otherwise than that it may serve for some Uses unknown to me, besides the Fire.

I shall conclude this Subject with an Expression from a Swist that I knew, who brought these Nuts in his Pocket at first from Windsor, that now are fine Trees; says he in French, Je suis surpris, quand je pense que je porte touts ces Arbres de seis dans ma Pache. That is, It moves my Wonder to think, that I cassied at once all these fine Trees in my Pocket.



CHAP. XVI.

The Nature and Improvement of the Sweet CHESNUT.

THIS Tree grows well, but not so fast as the Horse Chesnut; and is so much like the Oak in Sap and Heart, that it is hard to be distinguished, and will answer to the same purpose in many things. The Laths also of this are sold for the same price as those of Oak. A Barn of this Wood is now standing, as I am informed, at 'Squire Snell's near Cony, that has brought the very Carpenter under a Mistake in his Guess. In Aspridge Park, one of these Trees was selled about sourteen Years since, that out-measured all others there in its Diameter, and many of them are now growing in Gossumbury Park by St. Albans,

and at Penly near me.

In Copies they will yield most fine tough Poles, that serve for Hop-grounds, Fork-stales, &c. where if it be well looked after, will in about twenty Years get up to a small Timber, and return a pleasant ripe Fruit in October, that now-adays are in much request either roasted or boiled. and eat alone, or with Pork as Potatoes, and in several other Fashions, It's a Tree that is very hardy, will grow on Mould with a Clay Bottom, or in fandy or other Loams, in any cold, bleak Place, where it will stand firm by its strong Tap Roots, and therefore may be made a Shelter against the North or East Winds, or planted in Avenues; and to have it thus answer, its Nuts should be sown or planted at the same time, and in the same manner as the Acorn is.

If in Copies, then the Ground must be well manured and ploughed into a fine Tilth, and that into Furrows, at fix Foot distance, wherein may be put four or five Chefnuts very near together; then at five Foot afunder as many other fort, and so forward, and at such Distances may be put in Sollar-fets, Ashen-keys, and Hazel-nuts in October or February, first harrowed cross-ways before the Sets are put in; by this Method they may be drawn and thinned when at sufficient Heights, leaving only the Master-shoot, and will grow, if kept hoe'd, very fast, and be fit for felling in twelve Years time, if the Ground is in good Heart; for it is this that governs the After-success of this Tree, and the Cheshut-poles, as well as good Planting and Cleaning; there may be also left, what Standards and at what diffance is thought fit, always carefully keeping the young Trees pruned close to their Bodies, that their Heads may not shade nor drip on the Underwood too much; this way is far beyond that artificial one, of keeping the Nuts in Sand, and planting them in Spring,. because it is freed from the risque of Spiring before the Nut is put into the Ground, and also from unnatural Transplantations; the Fruit is preserved in dry Earthen Pots, kept very close in a dry, cold Place.

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CHAP. XVII.

The Nature and Improvement of the MAPLE.

THIS is a Wood frequently found in Copfes and Hedges, grows in most Soils, but best in dry Loams, Gravels or Chalks, and is for its R 2 lightness,

lightness, whiteness, and disper'd Knots, excellent for many Uses, well known to several Artificers.

In a Hedge it is accounted a brittle, spalt Wood, and apt to fly before the Ax or Bill, so that there is no such thing as making it in Frosty Weather; but has this good Property belonging to it, that it will grow with the least Rind that is left to its

Plaish or Hambend, of any other.

This Wood being of a light, fost Nature, is not so profitable to burn as some are. They are sometimes made Pollards, but make a slow Return that way; in Standards they seem to do better, because they are not subject to those Evils that the Pollard is; for this being a soft Wood, is apt to let in the Wets after their Toppings, whereby their Bodies often become rotten and hollow: But they answer the best of all in Hedges, because they will here throw up great Numbers of encreasing Shoots, and where they like, will keep

pace with the Sollar and Ash.

This Wood is of more value, than ordinary Woods are, for their diaper'd Knots and curled Grain, that have given it the Name of the Peacock's Tail; its white Colour and light Body alfo renders it a very commodious fort for Stocks of Guns, Knife-handles, Inlaying, Musical Instruments, &c. but with us, its chief Use is, in making Trenchers, Dishes, Spoons and several other curious Turner's Ware; and therefore it is, that the bigness of its Body makes it more valuable, which is much hindered and kept back from the time it is made a Pollard; nor should it be trimmed up of its Sides, for it is by these Side-shoots that its fine Knots are encreased, which made it in former Days in other Countries be more valuable than any other Wood for Tables, &c. which tempted the Ambition of great Men, to be more than

than ordinarily profuse in the purchase of those. Goods, and Conveniences that were made of it.

It is a Tree that does not much damage by its natural Head, because it is seldom very large, no more than its Body; two Foot being a good Breadth for this Country Growth, but in forme Parts of the Vale they grow faster and bigger than in our Chiltern; however, at best it is but a flow Grower in all the three Shapes, of Standard, Pollard, and Stem; for which Reafon, I think to flock up feveral of the latter in my Spring Wood, to make Room for a more profitable fort!" And as to its beautiful white, and scarlet Keys, I think they are more agreeable in Trees, or Hedges of Walks, or Gardens, where that Pleasure is more valuable, than in Fields that are better furnished by those forts, which are far more profitable for Fencing and Fuelt ; lamind of or esticited

Where it has room, it exhaustesh the Ground very much, which makes it but a bad Neighbour to some others; it is propagated like the Ash by its Keys and Sers, and at the same time.



and good CHAP. SXVIII. and slass

The Nature and Improvement of the HAZEL.

fes and Hedges, and will grow in most soils and Situations, but best in rich, loamy and dry Grounds. It is certain they have their good and bad Properties as some others have; for Hoops, Rods, and Poles arise from the Hazel as well as Fruit; on the centrary, this Wood has its Inconveniencies,

veniencies, as growing hollow in a Hedge, and often lets Cattle through into other Grounds; it, is not a very speedy Grower, and often invites the Filcher to damage its Hedge, by getting the Nuts: It is also observed, that in five Plaishes, hardly one lives; and if the Hedge is not made in nine or twelve Years, the Bodies are apt to die, but it

must never be made under nine.

This Wood grows less into Profit, because it has not a very extensive Root to make it answer, and therefore agrees best in company with the Sallow, which likewise takes up but little Room in the Earth; and also with the Tap-rooted Sort. that runs deep into the Ground. The Gollins, or Catkins of the Hazel appear in December; and their little red Blossoms in January; the former is the Male-plant, and is to the Hazel as the Testicles are to the Animal; the latter is the Female-part, and receives the Dust of the Gollins that the Wind blows into them, by which the

Nut is impregnated.

to fortug ochors; in is They are raised by Nuts, sown when ripe, or in the Spring, after being kept the Winter in Sand. or by Suckers from the great Roots, as our way is here, when we make a new Hedge or thicken old ones. About Beconsfield and Uxbridge there are great Plantations of Hazel, that return considerable Sums by their Sale to the Hoop-benders; and are also of vast Service to the Thatcher, by its Stretchers, Sprays, and Withs, which much exposes it to the Rapine of Thieves. This reminds me of a Story of one, who having Occasion for some Quantity of them, bid the Workman go about the Country and get enough for his Use; the Man went, but returning quickly, the Master faid, I hope you have not cut these out of my Wood, yes, fays the Man, because I could not tell where to get better. I have met carly in the Morning, Persons with large Bundles of Pieces about six Foot long, cut out of Hazel-poles in the Wood, which they clandestinely sell; and for much such a Reason, I was brought under a necessity some Years ago to stock up one of my Copse-woods, that grew near a publick Highway, half a Mile from my House, and convert it into arable Ground.

The Kernel of the Nut is more pleasant than wholesome, as is too often experienc'd, especially by the younger sort; a sad Instance of which had like to have been verified, in a Servant Boy of about sourteen Years old, that then waited on the Rev. Mr. Colemare, now Rector of our Parish, who had eaten such a Quantity, that two Physicians were consulted, who ordered Quick-silver to be given him.



CHAP. XIX.

The Nature and Improvement of the FIRE Tree.

Of this Sort, there were several Rows planted about thirty Years ago on our Green or Common, at twenty Foot asunder, that now by the close Growth and Cover of their Heads, make several delightful, shady, cool Walks in the hottest time in Summer; and also a pleasant Sight by their ever green Heads all the Winter; these have got up thirty Foot high, and are eighteen Inches diameter of Body: Here they shourish on a high, loamy Mould a Foot deep, under which is a red Clay: Also very near me, grows a fine silver-fire before our Minister's House, on the same Soil that

was planted about forty Years since, and is now one of the highest Trees in these Parts of two Foot diameter. This is a most fast Grower in this fort of Ground, and indeed in almost every other, even in the most Northern Parts of Great-Britain, if its Roots have room enough, and its Head kept trimm'd up as it mounts in height, which will greatly forward its Altitude: For it is certain, this and all other Trees grow fooner and stronger, where they are free from the Encroachment of any other, and can enjoy a full diurnal Discharge of their crude Sap, by force of the Sun and Air's attraction; and not only this, but the whole vegetable Kingdom is highly improved, where its Subjects have a frank Opportunity of nocturnal Suctions and Imbibings of the Aerial, Terrene and Marine Salts, that both the Earth, Dews, and Water plentifully afford, where there is room for their Communication; and then the Wind will also have a full power to shake their Heads, and loofen their Barks and Roots, whereby a natural Perspiration will be the better promoted, which is one main Part of a Tree's Life, and more of its quick Growth; for by the Winds thus straining the Bark, the Peres of that spungy Substance become more dilated and extended; whereby Transpiration of its crude noxious fuices, rereives a more free and open Passage, and casier room for their Evacuation; not only by this outward Coat, but also by its Fruit and Leaves, and that according as the Heat or Cold is more or less; for by the former, the Sap is prepared to peripire away by rarefying and thinning its Juices; and it is the latter that causes a Condensation on, and thickens what remains in the fmaller or larger Veins and Vessels: Therefore it is a Query with me, whether the Trees imbibe and receive more and most Supplies by its Bark, than any on ther

ther way, from the aqueous Air for the like Difcharges afterwards. And it is a constant Maxim with the Woodward, that the greater and higher the Head is, the more the Trees thrive; for then the many Parts of its Body bark, as well as that of its Arms, Boughs, Branches, and numberless Twigs, are more expos'd to the Potency of the Wind's Strength, that greatly relaxes and loofens the fibrous and stringy Parts of their several Barks and Roots, that best cause those Recepts and Isfues that Nature has ordained for their Health and Nourishment. I am very sensible, that in entertaining this Notion, I diffent from the Opinion of fome Authors, but I cannot go from the Query, when I consider that the Heads of Trees are the most sappy Part of them; which endows their Barks and most of their small Bodies with such hollow, spungy, soft Parts, as makes them fit Receptacles for their aerial, and aqueous falubrious Sublistence; and that in the greatest Summer Droughts, when all their heated and dried Parts often draw in, and more greedily receive fuch Quantities of the nightly, dewy Effusions, as fupplies the want of Rain for many Months together; and which makes a greater Lodgment on the Leaves and Barks, as they are more or less rough and spungy; for it may be observed, that the Rain does not run down the Oak and Elm, as it does the Beech and Firr : The Reason, I presume, is, that the Imbibing is fo great in the dented and hollow Bark, as stops its Currency, which on the smoother once falls with more Velocity; and . where the Bark is rougher, the Leaves in some are finer and narrower, as these of the Oak and Elm are; and though the Moss is an Excrescence, and better off a Tree than on, yet while there, it has a strong Retention of the Dews and Rains, by

its velvet shaggy Parts, and helps to communicate the same into the Body, and many Branches and Twigs; and to supply the want thereof, we frote and rub the Bark with the Back of a Knise, Hair Cloath or otherwise, till it's dilated, opened and loosened, in order the better to take in and imbibe the Air and Water.

The Leaves also are contracted, and in some Measure furl'd up by the Sun's vehement Atraction, that by night are expanded for the better reception of the Dews; but whether it be the Leaves or the Bark, that most receives the Air, Dews and Rains, it is certain they are both concern'd as Vehicles, to convey them to the Roots and mamy Vessels appertaining to the Tree. And 'tis as true that there is a Moisture in the fresh, open Air, that the spungy Parts of all Trees and Plants imbibe and take in as part of their proper Nourishment; and therefore it is not the Juices alone that the Roots draw from the Earth that supports a Plant, but the Air also gives it a proporgionable help, else a Tree or Plant kept in a House would subsist there; but the contrary is plain, that fuch Plant or Tree would ficken and die if confin'd from the fresh Air; so that though the Earth nourishes at the Root, 'tis the Air and Dews that help in a joynt Assistance to bring forth and carry forward their Growth. This hardy, useful and quick growing Tree, that feldom refuses any Situation or Soil, except the hurlucky Chalks and dry Sands, may be propagated by its Seeds that are got out of their hard, tough Branches, by being soaked in warm Water till they open, and then fown in March in the Place where they are always to remain: But if they are to be fown in a Nursery first and then transplanted, they may be ordered as other Seeds are, by raking them in and covering

covering them with fifted Mould half an Inch thick over them, and in three Years time they may be removed at Pleasure, in July or August: However, at best this is but Male-management, and is never so agreeable to the Firr and Pine, as if they grow where this Seed was first sown or set; and this I have wofully experienc'd in some Cherry Trees that I transplanted from Woods some distance from me, which will never make good Trees: First, Because the Roots and small Fibres were many of them broke and bruifed by the Mattock and Spade in taking up: Secondly, By the Air's drying the several Parts before I could get them replanted; and thirdly, by the Rot and Canker that generally overtakes some of them before they can make their new Roots, whereby part of their Vessels must be consequently prejudiced, and the Tree crippled in its Growth ever after.

Or the Seeds may be fown broad Cast on well manured and ploughed Grounds, and only harrowed in October or March; or in strait Furrows made by the Plough at any distance that is thought proper. And what encourages the Growth of this Tree, is, its being ready for building in thirty, or forty Years; and therefore it's Pity Plantations are not made of this Wood with all Expedition on many Estates, where they will grow beyond most

others.



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CHAP. XX.

The Nature, and Improvement of the Syc A-

HIS Tree is one of the fost, woody Tribe, and therefore grows faster than those, whose Bodies are more close and hard. The biggest that have been known in these Parts, grew some Years since at 'Squire Copping's at Market-Street, that measured above fix Foot in its Diameter, and served to enclose a Piece of Ground by paleing, that its Boards made. It is also excellent for the Turner in making hollow Ware, Trenchers and Spoons, by reason of its great Whiteness and Lightness, and fells to them generally for fix Pence the folid Foot, It is a beautiful Summer Tree, as appears by its curious, large Boughs and Leaves, that afford a pleasant Shade, and as fine a Sight when the large Clusters of its Seed makes their pendant Shows in resemblance of Grapes. It may be encreased by its Layers, Keys, or Sets. It is called a profitable Tree on account of its quick Growth to a great Body, and for its hardy Nature, as prospering well on high, dry Grounds, and in most other Places, eyen in low Gravels.



CHAP. XXI.

Of the Nature and Improvement of the SA 1-

This is more of the amphibious Nature in my Opinion, than any other of the aquatick Tribe; by reason of its general Growth, either in low, watery Situations, or in high, loamy, gravelly Grounds: This is that which is said to buy the Horse before the Oak will the Saddle, and deserves a longer detail of its many valuable Properties, than this Opportunity will give me leave to enumerate: It is this that will, beyond all others, suffer it self to be cut to Profit in a Hedge at sour or five Years end; so that where it is planted with White-thorn (as it best is) it may be made twice to once of that: Here then the Farmer has three Crops of Hedge-wood in nine or twelve Years, and at the same time enjoys the best of Fences, which is thus made, viz.

When the first Spit of Earth is thrown up, then plant on the same, about a Foot inwards towards the Field, the Sallow, or Salley Set, and Bed its Roots well on all Sides; at the same time cutting off the Head within four or six Inches of the Earth; then at sour or eight Foot distance plant another, and so on: Now on the outside, extream Part of the Bank, white thorn Sets must be planted with their Heads cut off in the same manner, and after the same length in a direct single Row, as close as they can well be put; then throw up the rest of the Mould on the Roots of both Sallows and Thorns,

Thorns, whereby they will be all covered, and a Ditch at the same time made.

Another WAY.

HROW up the first Spit of Mould in order to make a Ditch; on this plant a fingle Row of White-thorn-Sets close together, with their Heads cut off as before; then on the oppofite Side lay in Truncheons or Sticks of Sallow, eighteen Inches or two Foot long, and an Inch diameter flopewise, cut at each End hollow like a Deer's Foot, the better to strike its Roots at bottom, and to carry off the Wets to them from the top; so that the Roots of the Thorns, and the lower End of the Sallow Pieces, will be near together in the Ground, but their Tops will be two Foot afunder, by means of their lying in a contrary Slope; upon these throw the next Spit of Mould, then plant a second Row of Thorn Sets on the first, and Earth them all over: By this Method there will be two Rows of Thorns and a fingle one of Sallow, and between them should be a Hollow or Furrow made for the reception of the Rain. Or after one or two Rows of Thorns are thus fet, Holes may be made in the opposite Side, that an Iron Crow had just opened, wherein may be put the Pieces of Sallow flopewise, by which the Bark will be preyented flipping up, as it is very apt to do and die, when the Sticks or Cuttings are forced into the Ground of themselves; and when the Sallows are thus buried, there should only be left of them four or fix Inches above the Earth, for the Shoots to come out at; this Hedge is best planted, and a three Foot Ditch made, in the Month of Odeber, but may be also performed in any of the Winter Months if the Weather is open; and is the best Sort I ever saw; for by thus setting the Sallows at a due distance, and more forward into the Field than the Thorns, the Workmen have room to cut them off from their several Stems without annoying the Thorns; so that they may be made twice in twelve Years.

But here I must observe that there is an objection made against the Practice of cutting the Sallows so often, because, say they, the Roots will after this often cutting, push out with more than ordinary Vigour, and the fooner wear out and die before their natural time, according to the Proverb, One may ride a free Horse to Death. To which I answer, that this Objection is not regarded by many Farmers; for that the Sallows being thus cut, the Thorns much better enjoy the fresh Air, free from the Drip and Shade of this taller Sort. whereby they have a more frank Perspiration and Inbibition of the nourishing Dews and Air; and notwithstanding this double Operation, the Sallows will get up and overtake the Thorns at the end of twelve Years; besides, a Sallow of all others is the easiest and quickest propagated; infomuch, that if a Stake is drove down into the Ground in any of the Winter Months when it is not a Frost, it is fix to one odds if it does not grow; fo likewife a fmall Stick or Cutting of a Foot or two in length will do the same, provided the Bark is not drove up at its Bottom, and it lie rightly in a loofe, proper Earth; for this, like all other Vegetables, best agrees with its prepared Mould, and that Soil as Nature has adapted it to; as the Oak on a Loam, the Beech and Walnut on that or a Chalk, the Cherry and Beech refuses the Vale; the Maple and the Hornbean affect a dry Ground; fo she Sallow best loves a loamy Ground with a moist

moift Bottom, though it will grow very well in loamy Gravels, and on any of the black, red, and white Clays; but the hurlucky, dry Chalks and Sands it doth not agree with, as being contrary to its fappy. Nature: Thus the Apprehenfion of wearing out the Sallow too foon is of no great Stress, fince they are so easily renewed: and also because there is so seldom a want of such Renovation; for I dare affert it for a Truth. by what I have heard and feen, that the Sallow Stem will endure fifty or more Years in a Hedge if rightly managed, by cutting off its Shoots close, smooth and floping at each Operation; otherwise it may be spoiled in half the time; for this Wood being of the aquatick Family, is of a fost, soun-By Nature, and therefore will eafily imbibe and let in the Wets at its Stump, if it is left ragged or level, and then enfues Rottenness and Deftruction; nor should it be cut too high, for that will hinder much of the Stem's branching and decay it the fooner; fo that as the duration of this most serviceable Wood is valued, due Care must be taken at fuch times, to cut the Stem close, floping and smooth, that the Wets may not be able to make their Lodgments, and this every judicions Workman is apprifed of, and therefore this Hedge in particular should never he made by those that are not Mafters of this pictul Branch

There is also another commodious Property belonging to such a Hedge, that is, here is generally Wood enough to supply all Desiciencies that
may happen from the Huntsman and others, whereby considerable Sums are oftentimes paid for Damages, made by Cattle's breaking into others
Grounds; or from the weakness of those Fences
that are too often so slenderly made for want of
Wood, that it becomes a Temptation to them to
break through, and how important a strong Fence

of that values his Money and Reported monds to

Such a Hedge ben grows where there are no matther of Trees planted in it; for it is there that offen reduce good Hedges into bad ones, By their timattiral Drips on the Underwood, whereby in length of Time they do more flami than the Vathe of their Timber althounts to, especially little be Oaks, Ather or Walnuts; there are to prejudicial to their lower Neighbours, both by the Roots and Heads, as to spoil their Glawth by 12turating and envenoring their Boughs by their Shade and Drip, and exhausting the goodness of the Ground about them. But I know that some are of Opinion, it is good Hasbandry, when at the time of planting a Hedge, young Beeches or Cherry Trees are let in for Standards, iff order to cut down at twenty or thirty Years end, before their Heads are foredlatged as to dathage the Helige. I must confess that of such fort of Evils. this is the leaft; because the Hedge and the Trees being young, have both their gradations of growth in proportion, to that the Heage will become firong before the Trees acquire Head enough to spoil it by their Drip; and as to the Cherry-Tree it is a fort that least of all others hurts its Underwood by its Drip of Growth, which is swift, it is faid, to the Balfamick Mature of its Leaf and Branch, however, where none of these Trees are growing, there will be no cause to complain of their greater of keller Prejudices; and where an turife Hedge of only White-thorn and Sallow is thus planted, there may justly be expected to grow one of the best of Fences, that will return the most Profit of any other.

There are several sorts of Sallows, but it is the Land fort than I have wrote on, that is very common with us, almost in every Hedge and Copse

Copfe, and will grow on our dry Lands: Another of them there is that delights in wet, spewey Grounds, and is also a fast Grower: The third has a Bark somewhat reddish, its Leaves lesser and of a darker Green, and its red Wood very tough and durable. These all of them run up very fast, and turn to a confiderable Profit in their Poles, that ferve for making our Hurdles, Rails, small Rafters, and many other. Utenfils; and where it happens that one of these Sallows gets a Body of about a Foot diameter, they are then red-hearted, as I have feen and used several, and will rend into Pales, &c. or if kept dry, is faid to last as long as Oak, which occasioned the old Saying. Be the Oak ne'er so fout, the Solar red will wear it out. But then it must be cut down before the large Worm takes it, that will sometimes cat into the Pith and other Parts of the Tree, so that a little Finger may be turned in their Holes, There are several Standard Trees now growing of it in a Wood near me, I believe fome of them are thirty Foot high; and there was one lately cut down that grew among some tall Beeches, said to be fixty Foot high and fourteen Inches diameter, on a Loam that had a Clay Bottom, where they endure much longer than in the Gravels, 110 8 ei il

The Sollars Stems will sometimes produce ten or more Poles, eight or twelve Foot high, and are best cut down in Winter, for the Top and Chair Turners Use as well as all others; but special Care must be taken that they are not cropt by any Cattle, for their soft, tender Buds are greatly beloved by them; if they are, their Poles are spoiled and they will run into brouzy, spreading Heads.

In a Copie or Hedge the Sallows may be thickned, by giving a Pole a Chop at bottom, that it may easily bend to the Ground, where it must be kept forc'd down, by driving wooden Hooks in, and then cover it all over with Mould in the nature of a Layer, leaving here and there an open Place for the Shoots to come out at, 'as is menti-

oned in the Chapter of the Elm.

The Sallow has a Property belonging to it, different from most others, and that is, that the Gollin or Seed of this Wood is of so light a Body, that it is often carried by the Winds, and conveyed to some distance, where in the Spring time! it falls in many Places, and produces young Sol-An Example of which is in an eleven Acres Field, about a quarter of a Mile from my House, laid down for an Oaken Wood about nine Years ago, by being fown with Acorns; here there are great Numbers of Sallows, spontaneously come up from these Gollins, and some of them

are now four Foot high.

In a Copse, the Sallow is inferior to none, in its profitable, useful Productions, where the Soil is a Clay, or a Loamy Earth; here it best grows amongst the Oaks, sweet Chesnut, Cherry-Tree. Hazel and Hornbean in Rows, at fix or ten Foot afunder; I mean where the first Three are to be left as Standards at proper Distances, because these Trees have Tap-Roots, and feek great Part of their Food deep in the Ground; and the Hazel and Hornbean takes up but a small Circumference Or if a Copfe was to be new like the Sallow. made on such Land, I think none can return a greater Profit, than if it was entirely furnished with this fort of Wood, of which, my Copfe and Hedges very much abound.

There is a fort of Improvement to be made by the Sallow Stake of four Foot long, if rightly managed; and for this purpose I shall put down the Notions of several of our Country-men. One fays, that the best way is to cut a Sallow Stake at bottom, floping it four or five Inches long, and leave the Rind carefully on the other Side; this must be cut a-cross, and put a little Stone into the Slit and plant it. Another, that their Ends be soaked in Mudgel Ditch Water two or three Days, then cut them assope at Bottom, and prepare a Hole, by driving in another Stick first, to keep their Bark from slipping up. Another says, that these Stakes should be cut just as the Sap begins to be in motion, and planted directly as before.

In December last, I found a few Sallow Stems amongst Hazels, and as the Hedge was making, the Workmen gave a Chop about half through the outer Bough at Bottom, and then bent it down close to the Ground, letting its Head lie out to the Ditch-side; but the Body that was about four Foot long, they covered all over with Mould, except at the Stem, where 'tis expected to throw up feveral Shoots the next Summer, and the Body make several Roots. Thus a Sallow Hedge has the Advantage of most, I believe I may fay of all others, for this Property, because it may be thickned at Pleasure, with case and certainty in most Grounds: Beech and Hornbean will grow after this manner; but not one in fix of the Hazels will take; Ash worse, Maple and Whipbean not at all. On the own of the state of

made on fuch Land, I think none can teruin a greater Profit, than if it was entirely suched with this forcer Wood, of which, my Copic and Hodges very much abound.

There is a fort of Improvement to be read by the Sallow Scake of four Peop Long, if rightly ranged by the Sallow Scake of this purposed thall pur down the Nollons or several of our Country men. Our lays, that the best way is to but a Sallow Stake at the best way is to but a Sallow Stake at but.

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CHAP. XXII.

The Nature and Improvement of the Asp or Aspen.

TEXT to the Sallow, I have introduced the Asp, because I take this to have a great deal of the Sallow's Nature, for though it is of the watry Tribe, yet it will profper in some high Grounds, but best in low, moist Places, and on all manner of loamy Lands; where, like the Fir, it will be fit to cut down in thirty or forty Years time, which makes them best of all answer in Standards, several of them growing on our high Common, that have about a Foot depth of Mould, and under that a red Clay, here they flourish and make a pretty Show by their trembling Silver Leaves, as some do in my Hedges that there grow as fuch. They are certainly a very useful, profitable Tree, where the Soil is agreeable to their Natures, and run to a great Height and Bulk in a lew Years, but refuse sharp Gravels, Chalks and Sands. They are propagated in October or February, by Sets that must not have their Heads cut off, only their Side thoots kept plached off, that they may the sooner get out of Cattle's Way. Their Uses are many, in Boards, Somers, Joysts, Chair-frames, Kiln-laths for the Malsters, and Pales for Parks: Some, for the fake of its. whiteness and lightness, make Trenchers of this Wood! but it is apt to itaint, and give an ill Scent to the lar, Afp and Abel, by affecting and quick grotting

Afp, and fix white wood Trees that were fet of fixeir, fingle

fingle Arms, put into the Earth upright and flaked well, within fix Foot of a Hedge, in a Row at twenty Foot distance, about thirty five Years ago; these measure about Foot in their Bodies, which is but narrow to some of the same fort, planted at the same time, on the same Soil, before our Parson's House; but this is accounted for, when it's known that the former are under large, spreading Heads, that commence from within feven Foot of their Roots, fo that the Sap was chiefly employed in making Branches, when the latter were more in Body than Head; because they were kept trimm'd up in their Side-shoots to a great Height, and are thereby got near as thick again as the others: Now neither thefe, nor any of the Aquaticks are good Wood for Fire use, by reason of their great Spunginess; and therefore it's quite wrong to let these Trees grow more into Head than Body, unless there be a Demand for them by way of Shelter for Cattle, or to break off Winds; for the Body is much more valuable to the Carpenter, than the Head is to burn.

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the bad C H A P. XXIII

The Nature and Improvement of the WHITE-

Species of those aquatick Trees, the Poplar, Asp and Abel, by affecting and quick growing in the moist Soils and low Grounds, where the Sallow, Willow, and others of the watry Tribe chief-

ly delight in But this Tree feems to have efcapt ed the Knowledge of all or most Writers, which certainly is an Aquatick, and grows with great Expedition in Ground agreeable to its Nature, Places in Bucks, which I found out, and help'd's Gentleman to the Purchase of This is a Mandur, and one of the best, large Farms in the Kingdom for goodness of Meadow, and Arable Land; and altho' in the Vale of Ailesbury, two Miles from Wingboe, there is a very high Hill belonging to it, containing many Acres of ploughed Ground, that is faid never was dreffed in the Memory of Man, and yet produces the best of all forts of Grain: On the level Ground of this Form, amongst White-thorn, and Sollar, grows feveral of these White-wood, Trees, that like the Poplar, in hums not its Under-wood as many others do ... And al-To about Eton, under Dunstable Downs, where in both Places the Earth is of ablack, fat, day/Nature; here this runs up to a great Height and Bulk, one whereof had fifty Foot of Woodsmin only ten Foot length of the Grand end of its Body; and in the Head and other Parts, three hundred Faggots and several Stapks of Fire wood To is an ornamental Tree when planted in Hed gest or in Bows for Walks and affords pleasant Views to the Beholders from its Silver-coloured Leaves, and wettilh tall, strait Body and shady Head: Nonis this Tree confin distrogether in low Grounds, but will also thrive and prosper beyond many on high Hills of Clay Bottoms, as favoral do near me, or in strong doamy Lands; Sur not in Chalks, Sharp-gravele, or Sands, and is very near the Nature and Make of the Afpenit-old This Tree is propagated by its Truncheon, Layer, or Set: The first, by being put slopewise into the Ground, the beginning of February it the laft, Murch

tate, by bedding its Roots in good, fresh Mould, and carefully covering them therein, about the same time, or in Oseober, keeping the Head from its first planting, trimm'd annually tip, that it may the sooner be out of Harm's way, but the Top-shoot must never be cut off.

Phave feen feveral of thefe grow in one and the fame Hodge where Birds did, but the White-wood goe the flare by a valualificrence in height and bulk. and yet threw up great numbers of young Shooks from their spreading Roots, that even the Cows, Horfes and Sheep did not keep down but Plubpose this was by reason of the unpleasant Take of the Shoots Inthe Vale, this Tree will grow from the very Chips, withey prove by Shoots that feeelection the Place where the Paggets were made; but this fort of Muterblies don mult not be expected; but in few Paies of the Chillen, where the Ground generally where richely far, as is that the the Vale, nor relidere and the 110 was to receive the Ohips Impression The low Country inen fortiel times call it Dutes Arbelt but the confition Name's mong there is White wood from this Colon, what the Bark leaves, and Body retains beford kill others that grow in this Mation; and the tope is probuilds Dreffers Flooling boards Somers, Ras-Views to the Best brom rand basil sary of v ball week to dreinight but they new prance Strags harries share freeze agreed bett separe into the the fake of testanck drowth in autercite work Grounds where to is half to out this the Elm by the degrees; as may be seen sund! at Cheating sain on M? Hanon's Parm, who planted as many in his Life-time asiate now worth one Thousand Pounds. and he has not been dead above three Years! Thefe like the Affi, Poplar, Et. It have a Sect of Gol-March

March to the latter End of April, but the Set is

chiefly made use of in these Parts.

And if any Gentleman has a mind to propagate this Tree, they may be furnished by me, with these Sets; that I can so order from August to April, as that they will grow if sent to any Part of England by the Carrier; and also with Oak, Beech, Ash, Elm, Sollars, Hornbean, Thorn, or Holly Sets; or with Acorns, Mast, Keys of Ash, or Maple, Seeds of Hornbean and several other forts,

provided I have timely Notice given me.

But here I would be understood, that the White-woods out-running the Elm fo very fast on this wettish, flat Suil, is no general Rule, for here they both grow in a Hedge, where the Elms have not that Power to exert themselves, as the White-wood has; by reason here it enjoys its proper Food in a natural Manner from the waterish Earth about it, as being a true Aquatick, which the Elm is not; and this I prove thus: On a high Ground, about a Foot thick of Mould, and under that a red Clay in the Chiltern, grow both these Sorts not far off each other; where they are planted free from any other Invader of their Roots at proper Distances: Now here the Elm keeps Pace with it, as being in its more proper Soil and Situation than the White-wood.

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CHAP. XXIV.

The Nature, and Improvement of the POPLAR and ABEL.

HESE Aquaticks are propagated by Suckers, Cuttings, or Truncheons; by Suckers, that may be bedded and planted in fine, hollow Mould in Copses for Trees, in Rows ten Foot wide, and at twenty Foot distance among Oaks, Ashes, Chesnuts and Cherry-trees, and Underwood of Hazels, Sallow, Hornbean, &c. where the Soil is Clay or Loam, proper for its Growth; and here it will answer very well as one of those Sort, that seeks its Nourishment towards the top Earth, and be a natural Neighbour to the Oak, Walnut, Chefnut and Cherry-tree; by drawing a different Juice out of those many forts that the Earth abounds with, whereby less damage is done to the next Tree than if they were all of a fort. By Truncheons, or Cuttings that may be buried in Banks, in watry, marshy Places, or by Sides of Ponds or Rivers, where they must be put in at four, eight or more Foot distance, two or three Foot into the Ground, and about half a one out of it slopewise; but if Success is expected this way, their Bark must never be slipp'd up at their putting into the Earth: This is fo much like the Asp, that there is not much difference to be perceived; and these like them grow in our Woods, where the Ground has a moist Bottom; but they grow best in the watry Grounds, for here they have more plenty of their natural Food, than on our high, drier Lands, and will arrive

arrive to a useful bigness in twenty five or thirty Years, that will ferve their Purposes as the Asp will, for the Asp and Abel are both a fort of Poplar, that grow equally fast in tall, large Trees, and are alike encreased, and will fuffer any Wood to thrive under them, without that Damage which most others will produce, because it does not spread (if it is trimm'd up) like the Oak or Walnut; the Leaves also are small, and commonly under such a tremulous Motion by the Wind, that they have not power to retain the Wets, that are often blown off from their high Heads, before it falls on its under Neighbour. For these Reasons, it is a pity that more of these Trees are not planted on our Loams, as well as in wetter Places; because they bring on a sudden verdant Sight, and Shelter about Houses and Gardens, as well as in wet Meadows and Marshes, to a very great and ex-

And although it is a Wood less serviceable to the Fire than some is, because of its spungy, watry Parts, that abounds with less Salt and Sulphur than many others; yet that Desect is sulply supply d in the many Uses that this Tree is converted to, especially to the Chair Turner, who willingly gives five Pence per solid Foot if it is sound.

of the centred and other Chairs in London are made; so are Partons, Glogs and Reels of Shoes, Geres, Hurdievent findli Rafters,

Jacobson is but I watry Foundations to build on, where it is fall to harden like a Stone, and the very small heady Eart, will serve to lay is

PAHD that dealt Land to keep it hollow for

large follow that I put together Archways, the sales out of the color of the purpose, by holding along the sales of the though it may been



CHAP. XXV.

The Nature and Improvement of the ALDER.

BETWEEN Hemel, Hempstead, and Wat-River that runs through them, grows the most Alder that ever I saw; in fine, long Hedges, where their large, high Poles shew themselves in a beautiful Prospect to the passant Travellers, and turns to a great Account amongst the Barkbaniflead and Chefbunt Turners of hollow Ware, who in that Commodity make more Confumption of this Wood and Beech, than any other two Towns in Great-Britain, as is allowed by good Judges; for with this Wood they make Diffies, Bowls, and many other ferviceable Goods, that are lighter and softer than the Beech or Elm, and will bear turning thinner than most others; so that to pleafure Curiofity, a Dish of it has been turned in-fide out like a Hat; and of this, many of the Frames of the matted and other Chairs in London are made; as are Pattens, Clogs and Heels of Shoes; Gates, Hurdles and small Rafters.

Its Wood is best in watry Foundations to build on, where it is said to harden like a Stone, and the very small heady Part will serve to lay in Trenches, that drain Land to keep it hollow for the Water to pass; but instead of this, I used some large Flints that I put together Archways, that answered compleatly to my purpose, by holding almost as good now as at first, though it has been

done

done these twelve Years, and the Carts are often drawn over it. Gun-powder is in part made of its Coal, and the Bark formerly was used by the Dyers, which obliged the Owners to sell it in April, for then it would run best; but now it is not so much used this way, because they have lately found out something better that supplies its black Dye.

The Worm is very apt to get between the Bark of this Wood after it is fell'd, and then it is greatly damaged for the Turners Us; but to prevent it, the Owner takes care to Bark it in time, for then it will bear keeping a long while, if it is

not wet and dry, which rots it prefently.

There is a peculiar beneficial Property belongs to this Plant, for no Beast will crop it, be it young or old, which saves the great Charge and Trouble of sencing it after making. Their Propagation is the same as the Poplar, and where a Place is too wet for that, the Alder will sourish in high, bulky Trees, Pollards, or Poles in Hedges; in there, there is none of the aquatick Tribe will raise more Money and sooner than the Alder, in wet, meadow Hedges, and in boggy, moorish Ground, nor make stronger, quicker Fences, than this excellent Plant will.

by flicking a Truncheon, or firsight Prece upright into the wet or most Ground by Watershos, term two to feyen the though thoung first phenGround thera Deers had, and either the block; who as or yellowith fort will make a freeav Growth: but the Picks though be traced in

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done these twelve Years, and the Carts are often

ly tound out something better that supplies its

The Nature and Improvement of the WITHY and The Worm is worry Wto yet letween the Bark of this Wood effer it is fell'd, and then it

HIS Withy often arrives to a large Stature, respecially the red Sort, that delights to be planted in high Banks, as Mr. Worlidge fays, where they will strike their Roots deep into the Ground, by Ditch, Pond or River-fide; thefe, like the Willow, will also grow in Clay or loamy Grounds. either in Standards, Pollards, or in Hedges, and are in great Numbers about Baldock; where many of them are fold to the Turners, for working out Diffies and other hollow Ware; some of them meafuring two Foot diameter, will make Bowls

as big as Bushels.

They are of a very quick Growth, and in few Years obtain a Red-Heart, to their white Pith or fappy Part, that will fell for fix or eight Pence the folid Foot, and are propagated as the Sallow: The Willow especially is very easily multiplied; by sticking a Truncheon, or straight Piece upright into the wet or moist Ground by Waterfides, from two to seven Foot long; sloping first the Ground like a Deer's Foot, and either the black, white, or yellowish Sort will make a speedy Growth; but the Pieces should be soaked in the Water four Days, or a Week before they are fet in February, from eight to twenty Foot diftance, keeping Cattle from cropping their Leaves; and also that their Side-shoots be kept trimm'd up

to the defired length, as well as their Suckers pull'd

away in due time.

If they are not defigned for a Hedge, which is seldom done, the Pollard is of a great Service in returning a Top at three or four Years end, that may be cut just before Winter, or in the Spring; and is of fo great Use, that I have known it the only Wood they have in some Parts of Ratland in their open Fields; but it is feldom of longer duration than twenty or thirty Years, by reason the Wets are very apt to get in and rot its soft, fpungy Body: Also in the Vale, where they have not the Hazels growing, the Willow is planted to supply it; for with their tough, long Shoots, they make their Withs for binding Faggots, and fastening down the Straw in thatching of Barns and Houses; this makes Hurdles, by their largest Shoots, that will endure much longer than the Sallow ones; besides many things in the Basket-makers Way. on W stider than and do the

CARCERGOSPENIOS SUBSTANCES SON STORY

CHAP. XXVII.

The Nature and Improvement of OZIERS.

THE Castle Gardener at Barkhamstead, suffered a great Loss in some of his Ground which he rented, that was constantly wettish, till he was advised to plant it with Oziers, and then it turned to a great Account. There are almost twenty sorts of them, that may be encreased by Sets of sour or sive Foot high, planted at three Foot apart, in Ground well trenched before-hand, that

Years end in February, cut them to two or three Foot of the Earth, that they may get fpreading Heads, and he fit for use in September following.

They serve abundance of Uses, particularly Fisher-men, Gardeners, Basket-makers, and ma-

ny others.



CHAP. XXVIII,

The Nature and Improvement of white ELDER.

HIS I believe I may venture to fay, is a hew Chapter in Print, as well as the Black Cherry, Witch Elm, and white Wood, as being not wrote of in this distinct and ample manner, by any Author before my felf, as I know of; tho' in my humble Opinion, they deferve the Preference to feveral others that have been more enlarged on, whose Uses and Value are far short of these excellent Trees: The first of the white Elder was introduced into these Parts, by the late curious Simon Hartcourt, Esq; of Peuls, from whom I had many Cuttings, that now grow in my Gardenhedge to a great Height, and to an East and West Aspect, by which it enjoys the Rising and Setting of the Sun, that is more than ordinary necessary to the due Maturation of this Berry; because if they are not full ripe when gathered, their Liquor will be spoiled; as I understand, a Hogshead or two of their Wine was, by injudicious Hands; who seeing the Berries ripe on one Side, did not

examine whether the other was fo too; which caused their being gathered too soon, and their Wine eager in a little time: Whereas, if this Berry is gathered in a dry time, and full ripe, it has made a Wine, that has deceived a Gentleman I was in Company with, of great Judgment in many other Liquors; who took it for French Frontigniac, which it comes very near to, both in Tafte and Colour: But this cannot be done without a particular Ingredient that I had an Account of from Mrs. Carbury, the late Minister's Widow of Ivingboe, who was the most famous for this fort of Occonomy of any in this Country, and which with several different Receipts, among other ferviceable Secrets, never yet Printed, I intend, God willing, to publish as soon as I well can, if I am encouraged thereto by fuch as are Well-wishers to

the good of their Country.

This Plant then may be propagated very eafily in Hedges, or as Standard Trees: First by its Seed, after the Berries are squeezed; these may be thrown over a prepared Garden Bed, and covered with Mould half an Inch thick, and they'll come up the next Spring; after which they may be transplanted, till they arrive at a bigness fit to plant out for good; or by cutting off a Foot or two long, put slopewise into a good hollow Ground or Bank, in October or February, which will come up the very next Summer, and grow a Foot or two in length; but between each, a White-thorn Set should be put with its Head cut off: Then it will become a strong Fence, with the help of a Ditch for keeping out Cattle, and hold good many Years before the Elder kills it: This must be fenced in very fecurely from the Crop of Beafts, till it be got out of their way, which it will do in about three Years time, and bear plentifully of white Berries, that are generally bigger than the red,

red, and superiour to them in Wine, that now begins to be much made of them, but whether wholesome I can't say; however, all Authors that have wrote on the Vertue of Elder, agree, that this Tree is of a general Good to Mankind, in the Liquor of its Berries, in its Rinds, and in its Leaves; insomuch, that I have heard it said, if any one Tree deserves the Regard of Men, this does, for its many Galenical, salubrious Uses; and particularly (if Report is true) for its being a very good Drink in an Asthma, &c.

And as the red Sort is now become so common, as to be fold in its Juice at the London Markets, I do not doubt but this in a little time will also become more universal, and be entertain'd as a most delicate, wholesome, pleasant Liquor at the greatest Tables, even to supplant in some Measure, the excessive Use of Tartarous Wines.

There is a potent Spirit made of these Berries, or the Red, by the Alembick, that will burn in a Lamp, if managed rightly in the Distillation; and also will serve in another excellent Use, which I intend hereaster to publish. And if any Gentleman or others, are desirous to get Plantations of this white Sort, they may be surnished by me, to most Parts, by the Opportunity of the Landon Waggons, having already sent some in this manner into Somersetsbire.

large Verra time, and bear received



CHAP. XXIX.

The Nature and Improvement of the feveral Sents of WHEAT.

I HE Profit of our Wheat is generally reckoned to have two Years Rent dependent
on it; that is, the fallow Year, and that in which
it grows; the third being imployed in what we call
Lent Grain, as Oats, or Peas, or Beans, that feldom will bear a Reckoning, otherwise, than a Subsistence for our Horses and other Carrie; and
therefore it mostly behoves the Farmer, to make
a right Provision for the obtaining a full Crop of
this most valuable Grain, that must be enjoyed:
In my first Part, I have wrote largely on this
Grain; and now Ishall further proceed in illustrating several Benefits relating to the same.

There is a fort at this time much in Esteem of both Farmer and Baker, that is chiefly fown in this Country about Barkbanglead: By some called White-wheat, by others, White, Yellow-lamas, by others, White-lamas, which last, I think is the most proper Name for it; that will return vast Burthens from the Field, and is a great Yelder to the Barn; sells near as well as any, grinds into a most excellent Flour, and will better bear with a lean Ground and rough Tilen, than either

the red or vellow Sorts

Inconveniences: For this delicate smooth Corn

X 2 having

having a very thin Skin, is apt to receive the Rains sooner than others; that will cause it in a little time to sprout out a small Radicle, and thereby do it a great Prejudice; from hence it derives the Name of Grow'd-wheat, that fometimes brings the Farmer under a very small Price in its Sale; and also is more subject than the Pirky, or the Dugdale, to lodge the Honey-dews, or what fome call Mill-dews, which occasions it sometimes in dry Summers to be blafted, by glewing up the Ear and Kernel so tight, that it has not Power to enlarge it felf; as may be feen by the Oak Leaf, which being smoother than others, becomes a readier Receptacle, for the easy Lodgment of this glutinous Body, than the rough ones are: But these Disasters, Thanks be to GOD, seldom happen, and therefore it is of no great Signification; because when they do, they generally affect others as well as this, though perhaps in some smaller Degree. . nomine H at a sovened. Life clore it molti.

These Blights, by some are distinguished as different Sorts, and defined after this Manner. There are Blights, or Blasts that happen from too much Moisture in a wet Summer, and the Mill-dews in a dry one: The former, by the Fatness and Rankness of a moist Earth, that produces such high, large Stalks, as with the Help of the Rains and Winds, bends and forces flat down, whole Fields of Wheat before they are fit to Reap, which fo Cripples the Straw or Stalk, that it hinders the free and full Ascent of the Sap, which is the chief Nutriment and Bringer forth of a full Kernel; whereby the Grain is maimed in the Ear, and from thenceforth (if it does not rife again) will be Diminutive, and lose perhaps one third or fourth Part of its Body, which it otherways would have, if it had remain'd standing: And this was the very Case of most Wheat Crops this Harvest, 1732. infomuch and fort : #50111 infomuch

infomuch that it was faid, fifty Shocks, at ten Sheaves to the Shock, was threshed at Pitstone. on the Edge of the Vale, for five Bushels of Wheat; and in the better fort, two Bushels and a half was a good Day's Work for one of the best Threshers; which has caused the general Calculation to be but one half, or at most two thirds of a Crop of Wheat this present Year; for it was a common Observation, that few Ears had more than three Sets of Kernels, and many only two. that the Year before were mostly five; so that our Wheat-ridder Sieves, were all too large holed for the small, lean Corn that was thus blasted by the Summer's Wets. I also further prove, that these Blights happen by the richness of the Earth, and the wetness of the Summer Season; because the best Wheat that England enjoyed this Year, grew on the poorest, dry Lands; which makes the old Saying good, That the bad Husbandman bas a good Crop once in feven Years; so that it is plain, this fort of Blight is different from that of a Milldew; though they both are the cause of a lean Grain, like Oat-grouts that make the Oatmeal.

The Blights of Mill-dews, is said to happen in the dry Summer, by the Exhalations of the Sun, that draws up a moist Vapour from the Earth, by some, called the Spirit, by others, the Salt of the Earth; then, when it is coagulated and thickned in the Air, salls down upon the Wheat, Barley, Oats, Hops, Oaken-leaves, &c. both in open Fields and Inclosures, where it makes a Lodgment, like a sticky Gum on their tender Parts, that so closes and locks up their Ears, and the Heads of the Hops while they are Green, and in a kerning Condition; that hinders in a great Measure their surther Enlargements, as I before hinted; therefore it is said (but uncertain) that the Enclosure is more subject to this, than the open Field;

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Field; if so, it must be owing to the greater Molfsture of the former, than the latter, where exvery thing is sooner dried by the large Space and Room there is for the Sun and Air's siccous Influences; but whether these Blights happen by Wets or Mill-dews, they are often equally prejudicial, by the great Diminution they both occasion to the Grain's Body, though they happen from different Causes.

It was on Account of the great Rankness of the Wheat, that many moved it this last Spring, in order to check its further Growth; others fed it late with Sheep, to keep it down that way; this gave me an Opportunity to make Observations on the several Managements of different Farmers: One moved it down very near the Bottom, in a low, wettish, black Ground, that was a rich Soil, and the Wheat very rank on Eufter Monday, 1732. the Ear being ready to come out of its Skin or Cover; this backned it very much, and it proved a good Crop at Harveft; this was done by Mr. - Fen, at the bottom Farm, near Barkhamftead. The Parlon of Auberry, also mowed his about the some time, in an open Field, by only cutting off the Top-part, and it fucceeded.

Another finding his Wheat likely to run too much into Straw, and too little into Ear, mowed it, and found it afterwards to shoot so weak in

both, that he fuffered by it.

Another fays, under fuch Apprehensions, it's test tomow it early enough: That some have mowed Wheat three times, and had a good Crop; for Wheat has two or three Knots or Joynts; now if it is mowed late, it must be only just topp'd with the Scythe, for if then it be moved below the bottom Knot, it's apt to kill it, or at least to cause its new Shoots to be so weak, that they'll come to little or nothing; but when Wheat is

fed

mowed high, it shoots from the next Knot below the Cut, and often comes the stronger; as I have proved in a Field of my own, that I did for Tri-This fort of Husbandry is perfectly neceffary, when Wheat spends it self too much in Chalk, as it did this Summer, 1732 more than in the Memory of Man; for if it is let alone, it will rot at Root, tumble down, and be good for little, as a great deal did; so that at Risborough by Worder, there was a Man had Five Hundred Fifty Three Shock, at Ten Sheaves each, on Five Acres of Ground, and forced to thresh Sixty Sheaves for a Bushel of Wheat. Here then are two Extreams in this Management; if it's mowed too low when it is high, then it weakens it too much; and if it is not mowed at all, then it's a Fault as bad as t'other; which made an expericac'd Farmer fay, in my hearing, That many spoiled a great deal of Wheat this Year, by mown ing it too low and too late.

Several others cat it down with their Sheep. and succeeded well; however, in this Affair, there is required a great deal of Judgment; for first, If the Wheat grows in a rich, dry Soil, clear of Weeds, then it may be made more free with, and eat down from Christmas, forward. Secondly, If it is a wet, clay, or loamy Ground, and the Wheat thin, this Usage will be hazardous; because the Weeds here, will be apt to get up and keep down the Wheat; nor should it in either Calc be fed in wen Weather; for then the Sheep by their Tread, will crush it into such hollow, wee Ground and spoil it, or else will pull it up with their Mouths: The same Care is also necesfary, than it be not fed too late on fuch a Bottom; for Wheat on this cold, wet Land, won't recoven so soon as that on more dry; and this very Case extended my next Neighbour, who this last Spring

fed it so late, that it did not recover it self time enough, but proved fmaller than ordinary in the Ear; therefore, several Farmers think it best to turn in betimes, and feed it while it is sweet, which often is from Christmas, till the middle of February or longer, when it begins to be bitter; and by thus turning in betimes, they will eat the Weeds before the Wheat. I knew a Farmer that kept his Yews and Lambs fo long in, till they eat the Wheat up, and left the Horfe-gold Weed, but he still kept them on till they eat or spoiled that too; but this fo stunted his Lambs, that he faid, he'll never do so again; Wethers indeed are far more proper for this Purpose, and will if kept long enough on it, eat up both Weeds and Wheat, provided the former are not too old; and if this Work is done with Judgment, it will both thicken the Wheat, and make it come up much ftronger. Some thought themselves under a necessity to turn in Sheep when the Wheat spindles too carly, as it will fometimes in February or beginning of March; but this may be partly feen beforehand, as they did this last February, 1731. when many turned in about the middle of the Month. and fed it till the fifteenth of March following, which did a great deal of Service that mild, dry Spring; but as I faid before, where the Weeds are thick and the Wheat thin, this way murders it; because the Weeds will then get master, and choak the Grain. In Chalks and Sands, this Method is not practifed at all, for here the Sheep will either paw it up, or pull it up with their Mouths in such loose, short Ground; besides, this Soil is not ftrong enough to carry it fo forward as the Loams are, so that it seldom or never suffers by being Winter-proud in these lean Earths.

It is strange, that some part of a Field of Wheat shall be struck or mill-dew'd, when the rest escapes; this I cannot account for otherwise, than that its profitable Part of the Field may emit a moist Vapour into the Air, when the other Part does not; which being drawn up by the Sun in the Day, perhaps may fall down directly on the same in the Night; for it is allowed, that these Dews generally descend perpendicular. Or it may be, that the Breezes of Winds may disperse them here and there. Now this Mischief happens oftener to the later sowed Wheat, than to the foreward and more harder; by reason it being more greenish in the Mill-dew Scason than the other, the Blights have more Power to hurt its tender Ear.

But these Blights are observed not to happen so frequently as formerly, neither in the Inclofures nor Champain Fields, which have afforded matter of Speculation, that has employed my thoughts to account for ; yet fill dare not fix my felf in the certainty of any one Reason for its so being; therefore shall only mention my Notion, that this may in part be occasioned by the better Husbandry? that now is more generally practifed than in former Days; for it is notoriously known, that numbers of Estates have been improved within these few Years, by drawing the Water off from those Lands that were infested with them time out of mind; and thereby making them greatly more valuable for Corn, Grass and Wood, than they had been; as I have done by some flat Land in my home Close, by cutting a Gutter in the Ground, which I filled up with Stones, and now conveys the Waters into an adjacent Ditch, and so have prevented a standing Water on the same that used to stagnate; and in my humble Opinion, furnish Matter for these Exhalations, that these wet, moorish

moorish Grounds possibly may partly be the Gause of; as I have wrote further in my first Book; Rag. 70, whereby these Mill-dews are produced; and that more especially, where the Sun and Air have not room, enough to dissipate and expel their first Cause.

Besides it is also plain, that Farmers now plough their Ground better and oftner than formerly, and more particularly for the Pea, Bean and Turnep; whereby the Earth is brought into a hollow Texture, and is more enabled, easily to discharge the great Quantities of Water into its lower Parts; that otherwise would make a Lodgment on, or near its Surface, which likely might encrease those

Vapours that aproduce the Mill-dews.

Man, for the thorough Prevention of these Missortunes, I have done what my small Capacity would give me leave, towards exposing the Nature and Mischiess of these Blights or Blass; that I know no other way to hinder and overcome, than the use of the Rope; the draining of wet Grounds and giving them their due Ploughings, and the not planting Trees in the Hedges of narrow Inclosures; for in the open Fields, when Wheat is fell'd and thrown down by the Violence of Wets and Winds, it is often raised again by the Sun and Wind's Strength; when in the small Inclosure, it remains blasted without Recovery for want of necessary Room.

The white-brown, and Red-pirky Wheat, won't strike so soon, or receive the mill-dew Blight, as the white, yellow, or red Lammas; as being of a more hardy, rougher Nature than any of them are; and therefore is much more sown of late, not only for its better resisting those Honey-dews, but also for growing very well on our poor Lands and

Tilths

Tilthe; where it obtains a better Body than the yellow or red Lamas, and greatly yields in the Ear; which makes the Farmers fay, The Pirks are a more fure Crop, than either of them; and fells in the Market for very near as much as Lamas; and is now become a more general Grain in our Chiltern Country than any other.

The Red Lamas indeed has the largest Ear and Kernel of all others, and reputed the most ancient and best Wheat for making the finest Flour; but this will not be so in our chiltern, Iean Lands; because it requires a rich, loamy Clay, wherewith the Vales generally abound; and but sew Places in our higher Country will surnish this sort of Soil; when 'tis ripe, it makes a fine Show, by its red, fire-colour'd Straw and Ear; as does also the yellow Lamas, when in its best appearance; and is not inseriour in its Flour to the Red.

But this White-lamas Wheat is, and will be more fowed (in my Opinion) than ever in our Childern, for it's agreeable Growth in our high Grounds; and is remarkable for an even Kernel throughout its Ear, beyond all others, and the vast Crops it returns even on our poor Grounds; and sometimes worser Tilths, which Properties cannot be said either of the yellow or red Sorts. Also for the whitish, yellow Cast of its Skin, which causes its Flour and Bread not to show so Coarse as others will.

The Dugdale, Coarse Wheat is much of late rejected by our Farmers, and therefore sown by sew; however, there are some that sow it for the great Gonveniency it assords above all others in growing on sour Tilths and poor Grounds, as on one Ploughing up of Clover or other Grass; it is also good to shelter St. Foyn and Clover, sown amongst it in September; it will not

be mill-dewed or blighted when others are, by reason of its Beards; nor will it receive the Wets like others; and therefore when Wheat in general is grown by Rains after it is reaped; this will prove most excellent to grind amongst it; its Hardiness makes it be sown much in the North, where it will grow if sown late in the Spring.

An Estimation of the Charge and Profit of the Wheat CROP, for the Tear 1732.

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CHAP. XXX.

The Nature and Improvement of the BARLEY.

out the Chiltern Country a good Crop, that generally yielded about four Quarters of an Acre, by reason the Spring was dry, and the sowing Season consequently good. This was succeeded with a showery Summer, that brought on plentiful Crops; so that some, especially in the Vale, was laid; but that was only in a sew particular Places, that did not affect the Price of Barley in general; for about Michaelmas, it sold here for twelve and thirteen Shillings a Quarter, in all our Markets, having had a most sine, dry, cool Harvest, that gave us an Opportunity of Inning it in very good Order, which by course must cause it to sell very much to the Master's Prosit.

This Year was attended with better Success than the preceding Summer, for that was long time without Rain, and the bottom Grains come up, while the top ones lay dry, fo that at Harvest there was both green and ripe Corn, that made a great deal of bad Malt; for when Barley is cut green, though it be housed dry, it will shrink, and be a thin, lean, green Body, when it is threshed; notwithstanding, I had then a most lovely Crop, by means of liquoring my Seed according to the excellent Receipt mentioned in my first Book, Page 25. By thus foaking the Seed before its Sowing, it is brought into a sprouting Condition, sooner than if sown dry; and from thence forwarded by the power of that most natural potent o diero Spirit,

Spirit, with which the Seed is impregnated: This brought on a Head or Shelter very quickly, that proved of great Importance in the fucceeding Droughts, because by the thick and large Head the Barley thereby received, the upper Corns that lay on or near the Surface, obtained a Cover that shaded it, and lodged the nocturnal Dews that fell in the scorching Seasons which then followed: whereby the Crop in general came gradually on, and was more even than any about me that was not fo ferved; and yielded more than any I ever had before, and yet fowed only three Bushels on an Acre according to that Receipt. Therefore I would advise all Persons whatsoever, that fow Barley and other Grain, to make constant use of, and pursue the Directions of this or the former Receipt, and they may depend on it to have their Expectation fully answered, as I have proved by Experience.

This Summer, the forward fowed Barley was ripe generally fooner than the Wheat, and there was fome fo rank, that grew, I heard, about Stony-Stratford, that they mowed it, and had feveral Loads of Hay, and yet had a good Crop of

Barley at Harvest.

Another at Dagnal in Bucks, kept his Sheep upon it, and fed them till the first Week in May, but took Care not to eat it quite bare; this tam'd its Luxuriancy, and brought on a strong, full

Crop.

But these Operations ought to be attended with Judgment, else Barley may be as well spoiled as improved, as it happened once by a Lord's Manager, who seeing a Crop that he thought too rank, ordered it to be rolled to keep it back; the Man had not long proceded, before an experienc'd Person convinc'd the Chiestain he was wrong; upon which he desisted, but spoiled what had been crush'd

crushed; for it is to be supposed, the Barley was then spindled, and the Chalk so bruised by the Role, as hindered it afterwards from coming to good.

Barley is a Grain that won't shed like other Corns, and therefore in the Vale, where they have open Fields, and no Hedges nor Woods, in some Places they let it stand till it is at full Maturity. mow, and carry it away the same Day, or the next after, and fo proceed, often cutting and carrying against the Danger of Rains; because there rank Barley of these rich Grounds lies fo thick. as makes it difficult drying it again; by which Method they are the more fure of having good Barley, and then they may depend on having good Malt; for this prevents the Kernel fhrinking. which it will be fure to do if mowed too foon. Yet the Malsters fay, that if it stands till it is very ripe, it thickens the Skin, makes it high colour'd, and more unfit to make pale Malt: And that if the Cornegets at redness, it will not make pale Malt at all.

Barley is a tender Grain, that cannot fo well as some others endure the Frosts and cold chilly Wots that often overtake it, when it is fown early in the Spring, and bring it under a red and fometimes a yellow, dying Colour. And therefore too foon fowing is often as great a Fault as too late; but when this Misfortune chances to happen then the warm Dreffings of Soot, Affice, Bc. give a great Relief towards its Recovery: Yes this dast mild Winter, 1731. a Farmer by St. Atban's, fowed Dugdale Wheat (as being the hardiest and coarsest Sort of all) on a Barley Stubble on one Ploughing, and harrowed it in: The Wheat thrived, and the beginning of April the Barley was in Ear, from Kernels accidentally left in the Ground.

france () 0 CI In Lands naturally wet, it has been practifed as a good Piece of Husbandry, to plough it the last time into Stitches, and harrow them well down, and then fow the Barley and harrow it in. This is done to fecure it against the Fury of Wets and Colds, which it's more than ordinary liable to in the Vale and flat Lands.

An old, rich Man that rents a confiderable Farm, had a great Crop of Barley, that he could not sell for more than twelve Shillings per Quarter; the Price so provok'd his Avarice, that he would not part with it for that Year; but the next he offered it to Sale again, and was refused by the Malsters, who would not venture on it, on any Account, as searing it would not rightly work; but the Owner malted it, and it came very well; the rest he sowed, but first tried a little to see if it would spire. So that it's plain, Barley will malt and grow, if kept two Years or more, provided it did not suffer by the Heat of the Mow.

An Estimation of the Batley CROP, as it generally happen'd in the Chiltern Country in the Tear 1733; going has going odd at ylus

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CHAP. XXXI.

The Nature and Improvement of OATS. A. T.

HIS is a hardy Sort of Grain, and best of all agrees with, and flourishes in the worst Tilths, in the poorest Grounds, and in the coldest Clime; is truly necessary to the Farmer both in House and Stable, and pays sometimes better than Barley, as both last and this Year sufficiently proved: The Oat in the first fold for twelve Shiklings per Quarter, when the Barley was fixteen? and now the Barley is fourteen, and the Oat twelve; so that the Price has but a very small difference, but the Charge a great one; for It's well known, that the Charge of a Barley Crop is not much less than that of a Wheat; as may be thus proved, viz. I year about dood day will of Porters and Bacon I fogs, that they bring to St.

Andrew's Fair, at Briedy in Oxford fines. But by

in my Orinion, is, excente their Realon for to doing, poor for the Bean and Pea; or that they are though deerer than the Oat for this Ufe, which made a

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of 1 sillaging with, and flourishes in the world Tilths, in the poeest Grounds, and in the col-

Oats in many Grounds are made ufe of in farting Hogs, especially when Peas are dear, as they wore the last Year, 1731 for then five Bushels were worth eleven Shillings with its, and the Oate twelve Shillings per Quarter; thefer they boil in a Copper till they become very plump, and produce a Quantity of Liquor which they improve, by putting Bran, Barly-meal, Oatmeal or Ground-nye into it, and for make a fort of Broth or Bouillon, that alternately they give the Swine: With both these, they far great Numbers of Porkers and Bacon Hogs, that they bring to St. Andrew's Fair, at Brackly in Oxfordsbire. the way I must observe, their Reason for so doing, in my Opinion, is, because their Grounds are too poor for the Bean and Pea; or that they are thought dearer than the Oat for this Use, which made a Veighbour

Neighbour of mine one Year fat his Hogs with dry Oats; but that can never be so good a way as with the boil'd one; nor can I think the Oat (the boil'd one especially) will make so firm a Bacon as the Bean or Pea, though perhaps as sweet; for it is certain that the looser the Food is, the looser is the Meat.

In some Places in the Vale, they sow Oats for a Change to the Ground, lest it degenerate under the constant Growth of certain particular Crops; therefore are Oats frequently sowed, but then they are the white Oats; for in the rich Grounds, the black ones run too much into Stalk, and less into Ear; when the white Ones, that have a more leafy Stalk and draw more Nourishment from the Ground, bear to a great Enerease a large, bulky Grain, sometimes almost as plump as Barley; tis this, and not the black Oat that is here meant for fatting of Hogs.



CHAP. XXXII.

The Nature, and Improvement of the P & A.

ANY are the different forts of Peas that are fown in this Kingdom, whereby the Farmer has his Choice for a proper Soil, Clime, and Scason; but for my part, I sow at present only three forts, that I have found to answer best; and they are the Horn-grey, Maple, and Blew-peas. The first is accounted with a great deal of Reason, the hardiest of Hog-peas, and is of a good Size, and preserred to all others for the chalky Soils, where it will admit of being sowed forwarder than any other, which is a Perfection very much in fa-

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vour of this Ground; because by this means it enjoys all the Spring Wets in this dry Soil, and thereby obtains an early Head that covers, shades and defends the Earth about them from the scorehing Heats of Summer, that otherwise would dry up and wither their Roots: Also on Gravels this Pea has the like Success, which makes the Farmer sow them in these two Soils presently after Christmas, where they strain them in after the Plough in broad Lands, and harrow them afterwards, till they are almost ready to appear; infomuch that about Ivingboe, and many other Places, they sow no other fort but this in their Chalks and Gravels, on one Ploughing after Wheat or

Barley Crops. dimovi stom west

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The Maple is a larger and sweeter Pea for the Hog, but somewhat more tender: This is chiefly fown all over the Chiltern Country in March, and is found to make the best Returns of all others in both Grain and Straw; and therefore the present Practice mostly runs in an equal mixture in these two forts of Peas, that are fown together about the feventh of March, in feveral Manors and in several Soils; and this for the better Assurance of a Crop, for if the Maple should miss, 'tis hoped the Horn-grey will hit; which is having two Strings to the Bow; as is also often done after the very fame Method, by fowing a mixture of seven Pecks of Peas, and seven Pecks of Beans on an Acre: This way proved exceeding well this Spring, when the Beans were the best Crop ever known; while many of the Peas were spoiled by the Chill of Wets and Frosts that attended the whole Month of May, 1732.

The blew Pea is a more tender fort, and is fown both earlier and later in April, on prepared Ground that has been twice Ploughed: This Pea oftentimes returns great Crops, is a most sweet

fort for any of the culinary Uses, and also fats Swine in a very short time; but the Haulm or Straw of this Pea is not so good for Horses, as that of the Horn-grey or Maple; because this is apt to gripe them, and bring on the Yellows, that fometimes prove fatal if not taken in time; and is first discovered by the white of the Eyes being turned yellowish; for which, bleeding, and cordial, sweetning Drink is the best Remedy. This Misfortune is faid not to be owing so much to the Straw, as the Peas, that is generally left in after Threshing, which being of a softer Nature than all other Peas, is thereby more endowed with this pernicious Quality. But there is great difference in the Nature of this Pea; some of them will boil in a little time to a great Softness, others require a longer time, and some will never boil so sweet and kind: The Reason of this, I take to be owing to the particular Juices of the Earth wherein they grow; for that of the stiff Clays is commonly churlish and sour; that of the Loams much better; but that of the Chalks, Sands, and Gravels exceed all others in Sweetness and Quality; therefore the best boiling. Peas are allowed to come off the three last Soils.

The Horn-grey is best to grow with Beans, because it will endure to be sown with them at Candlemas, agrees with all sorts of Ground, and will better bear with one Ploughing than any other: These two Kinds have each their reciprocal Benefits; for the Pea will shade the Roots of the Bean, and keep off the parching Heats and Droughts of the Sun and Wind. The Bean also will, by the Strength of its upright Stalk, keep up the weak, bending Haulm of the Pea, and cause it to kern and ripen kinder and sooner.

Ground is in Heart, won't fow Peas alone, or Beans

Beans or Peas together (which they call Halfs ware) because then the Sheep can't weed amongst them, and eat up the wild Oat and Curlock which often insest them; but in the clean Beans they turn in their Sheep till Blossom-time to eat up these Weeds; then they take them out, less they rub them off.

Peas in our Chiltern are fown feveral ways, and to find out the right, a Person sowed them after three different Methods in one Field, viz. first was on Wheat Stitches, which was done by a Man's following the Plow, and straining them in; and afterwards harrowed till they were almost ready to appear. The second was on a Barley Stubble that was once ploughed, and the Peas directly harrowed in. The third was on another Piece of the same Stubble, where the Peas were first fown by Broad cast over the same, and ploughed in as they do the Beans in the Vale: The two first ways did not succeed so well as the last; for it being a wet Summer, the Peas that were ploughed in broad Lands, made their way through, and proved the best Crop. The Stitch was next best; but those only harrowed in lay sometimes dry, and when the first hasty, great Rain fell, they burst, and so the Owner mils'd of that part of his Crop.

Remarks on the foregoing Method.

PORMERLY I lost a Crop of Peas by fowing them after the second way; it was on a
Barley Stubble that I sowed my Peas, and then
ploughed them in, and harrowed it directly;
but my Plough-man did not harrow them enough, which caused them to lie too much under
Cover; so that when the Rains sell, this gravelly
Soil became so bound, that the Peas could not get

out. Therefore this fort of Operation is best performed in loose, loamy, mouldy Ground, and harrowed well down, that the Peas may without difficulty make their way out with their foft, tender Heads. It also oftentimes happens that these Peas only harrowed in on broad Lands. lying almost on the Surface of the Ground, are not only expos'd to the devouring Vermin; but by the heat of the Sun and dryness of the Weather, they shrivel up, and due away for want of a due Moisture. The best way then that I know of, and what I now frequently practife, both in Gravels and Loams, is to give my Wheat or Barley Stubbles two Ploughings in the Winter, after the manner shewed in the Chapter of Ploughing, and at the proper time in the Spring fow half my Seed all over the level Ground, and plough it in; when that is done, I fow the other half all over the top, and harrow them in; this is half Underthorough, and half Over, and exceeds all others except Drilling. The most common way is this if Peas are to be fown on the Wheat Stitch; then they are frained in after the Plough, and harrowed well afterwards. If on a Barley Stubble, fome do it two feveral ways; first, they do it, by running the Plough up one Thorough and down another near the first, whereby a Ridge or Bout is made; this lies great part of the Winter as a Stitch; on this in the Spring, they plough and Arain in the Pea, as they do on the Wheat Stitch, and harrow down; Now this is either done on Gravels, Loams or Clays; in the Clays it is certainly the best, because the Pea in this cold Ground is more delivered from the Chills of Frosts and Wets; in the Loams the same Management is most agreeable; and on the Gravels, either the Stitch or broad Land is right: But here is a particular fort of Risque attends this Soil; for if the great () ()

great Rains presently succeed the sowing Dere. they are furely bound in and come to little, from the hardness of the Crust of the Gravels, that so fastens and binds them, as not to fuffer the Pea to come out and enlarge it felf: This was the Cafe of many Acres this last Spring in the Gravels, where some Showers fell on the sowing of the Peas, and spoiled a great many Crops; so that Paul may plant, and Apollos water, but 'tis GOD that gives the Encrease; for those that were sown in a dry Scason, did very well almost every where: It is that makes Farming fuch a Lottery, that there's no Assurance of any Crop of any fort, because all Field Vegetables are expos'd to the Rigours of Weathers. And it's further plain, that Gravel is the most binding Earth of all others, from the great Use of it in the London Pavements, where, after their Work is finish'd, they spread the Gravel over it, to keep it together against the most ponderous Carriage. So here the very Haulm, or Stalk is so bound and lock'd up, as not able to encrease its Bulk, and so pines and dwindles to the loss of whole Crops; this was very visible in our fifty Acres common Field this Summer, 1732, where the Loams return'd excellent Peas; while those in the rashy Gravels of the same Field, went off by the Rains binding them in.

For this very Reason, as well as to surther the Growth of the Pea as other Grain, it is of late discovered, to be excellent Husbandry to chalk these Gravels, which at first, I must own, seem'd to move my wonder, to see a warm, dry Soil dress a warm, dry Soil; but Experience warrants the Truth of it; for there is a third Nature in the Chalk, which effectually answers the Intention; and that is, its dilating loose and shartering Parts; this being contrary to the Gravels binding Quality, makes their two opponent Properties agree,

and become one most natural Soil (as does also Sand) fit for almost every Grain or Grass, except Beans.

This then on such a Mixture, becomes a loamy Gravel, and is allowed by the Judicious, to be of a knitting, kerning Nature, that will more surely run into Corn, than any other Ground, provided they are thoroughly ploughed, dressed, and a wet Summer ensues. And when this compounded Earth is obtained, that it may be the more compleat, if twenty Loads of long Horse-dung was ploughed into an Acre, and Barley harrowed on the same, it will lie and become a watering Pot to retain the Wets, and keep this dry Ground moist, a long while after the Rains have fal'n, and so likewife for a Wheat Crop.

This therefore is a most natural Dressing to a hungry Gravel, and this will do instead of Coneyclippings, Rags, Horn-shavings and Hoofs, as I

have formerly hinted.

The beginning of May, 1732, came in with North and East Winds, attended with some heavy Rains and Frosts; this so crippled the Peas, as to cause many of them to be somewhat Red-headed and die: For as the Maxim is, when they go away in wet Weather, on red or yellow Clays, or wet, loamy Grounds, they feldom or never come again; but if they fall in dry Weather, they often recover. In this fort of wet cold Weather in the Spring, it is, that the Chalk that has been laid on, and ploughed into the Clays and Loams, does a great deal of Service to the Peas, by abforbing the Wets, and keeping the Roots loofe and warm; as also does the several Ploughings for Peas, which so meliorate and hollow the Earth, that the cold Water gets down and lodges below the Roots of the Peas, and so preserves them from that Chill, that otherwise perhaps would have destroyed them,

and this is the more apt to do it in Grounds but once ploughed, and that are four, clung and heavy; yet is there this difference in Variety of Seafons that affects the Pea. A Field was fown with Peas in wet Weather, and another in dry; a dry Summer succeeded, and those sown in the Wet proved the best Crop; because by the close Texture of the Earth the Water was retained; nor could the Sun and Air so easily penetrate, dry, and parch their Roots, as in the more loose Ground.

Now as all Chalks and Sands are of a hollow, spungy, dry, and warm Nature, the Peas that grow in either of these Soils, notwithstanding the Excess of Wets and Colds that often make them Red-headed and pine, generally recover again and be good Crops, while those on Clays and Loams entirely perish.

These several foregoing Reasons, caused many good and bad Crops of Peas this Harvest; and therefore I shall make my Estimate of them, as near as I can, according to the Medium of both, viz.

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DENT for one Acre one Year	-	0 12 0
N Ploughing and Harrowing once	7 70	0 6 6
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Carrying four Loads from the Field	3:0	0 4 9
Threshing eighteen Bushels of Peas -	7 i= 6	0 3 8
Taxes and Tyth	ofole	0 4 0

browings stood and I be mand the age ways

as also does the feveral Plough Age for Peac, with the formationate and hellow the March, that the fee of

Water gets down and lodges below the Köles of forndWa, and to preferves themsfrom that Chilly that otherwise critical than dominated thems.

Whereof received for eighteen

Bushels of Peas, at 1s. 10d. 1 13 0

per Bushel - - - S

Straw and Chaff (two Cart

Loads of Straw, and eight 1 2 0

Bushels of Chaff) - S

Charge 2 0 8

The great Varieties of Peas are certainly attended with Varieties of Qualities, both in respect of Soils, Seasons and Feeding, which deferves the particular Regard of all those who are concern'd in their Growth and Feed: In Soils I have taken Notice of some already; but here I shall surther observe, that in landy Grounds beyond Leighton-Buzzard, they run chiefly upon the Blew Pea, which this Earth is sound to endow with a great Sweetness and Soundness, as it doth also the Turnep and Carrot; and as this is a tender Pea, that loves a dry, warm Ground, here it is delivered from standing Wets, and receives more than in any other Earth, the warm Resection of the Sands, that ripens them early, though they are sown late.

So likewise the Poppin or Poplar Pea, is a sine brown Sort, with a black Eye, that requires to be sown late, as in the beginning of April, and yet will be ripe generally before the Wheat; this is a large sweet Pea, rather bigger than the Maple, and will return a very great Crop: They were first introduced into our Country by a great Farmer from Berksbire, and is now much in request, especially for sowing in Drills made by the Plough.

and hoed by Men, as is mentioned in my first Part, Page 35. and also for fast feeding of Swine; but is a little apt to make the Flesh loose; and so is the blew Pea, which being the sweetest and softest of any, will cause the Flesh to be more limber and slabby, than the Bean or any other Pea.

The Maple is a brave large Pea, feeds well but not so hard as the Horn-grey, which is reckened the best of all Hog Peas, for producing the sirmest Flesh: Now all Peas are more greedily eat by Swine than the Bean, because, they are sweeter, go farther, and will fat sooner, which makes many say, that they had rather give ten Shillings for a Load of Peas, than eight for a Load of Beans for fattening of Hogs.



CHAP. XXXIII.

The Nature and Improvement of the BEAN,

I Shall enter upon this Subject with an Account of the former and present Practice that is now on Foot about Ailesbury and Tame, where the Farmers are under as good Reputation for right Vale Management as most in England; and this they have more than ordinary Encouragement for, especially about Ailesbury, by reason their Land is so good, that they sow three Years together, and fallow the fourth. Here it is then, that they have very much lest off the sormer Fashion of sowing their Horse-beans broad Cast, or on the top of the Ground, and then ploughing them in; because by sowing them in this promiscuous random

dom Manner, the Sheep have not that Opportunity of such an open free Passage to and fro, to come at their Meat, as they have by sowing them in a more regular Method, as I shall shew by and by. Also their other old way of setting Beans is now much laid aside, to give Place to the more new and better one, for tormerly Men, Women, and Children, used with a Stick or Dibberto make Holes in the Ground, and others would follow and put them in. To amend this, there was a more late Invention, that was to make the Holes at an equal Distance, by the Spoke of a Wheel, like that in a Barrow, which a Person sollowed and dropt in the Beans; this also proved both tedious and chargeable, and is mostly done with

Wherefore the present Practice and best of all is perform'd thus: The Foot Plough has a Bin or Hopperaffixed to it, that will hold about half a Bushel of Seed, and so made, that as it is drawn along a Thorough, the Bean falls gradually out of the same at equal proper Distances; when this is done, they plough another Thorough that fills in the first and covers the Beans; in this second they fow nothing, but proceed to fow a third as was the first; this is sowing one Thorough and missing the next, whereby an exact Distance is left throughout the half Land, between Thorough and Thorough; this, they harrow clean down, and by this Method, the Sheep have a fort of a Path-way left them, to feed on the Grass and Weeds that grow amongst the Beans, which gives them an Opportunity better to destroy the Curlock, Wild-oat, Hairy-bind or Hell-weed, and other Weeds that generally infest this fort of Codware: The two first are easily destroyed by the Sheep that are turned into the Beans when they are not above a handful high; but the last is a most

most destructive Weed that runs Miles together, if the Crop of Beans grows in that Length of Ground; here it will twift and fatten its thready Entanglements to them almost from top to bottom; and where it fixes, there it wounds both Bean and Stalk, till it ruins all or most part of the Crop by its prickly Pines: But where this takes its Original or Root from, has been the Inquiry of many Farmers, whose Attempts have proved vain, as not being able to make a true Discovery thereof; which has occasioned a Notion that its first Rise or Root is directly from the Bean Stalk, as Moss is from a Tree, and so from each Stalk 'tis thought to receive its Subfiftence, and wounds and destroys the very Stalk that breeds and feeds it.

Now by this Method of sowing the Beans out of the Hopper in Thoroughs or Rows, at about sixteen Inches apart, the Sheep that are the only Doctors to cure this horrid Disease, have more Room than formerly to make their Marches at mongst them, and thereby are, as it were, directed in quest of the several Weeds between the Rows; so that in their Passings and Repassings for some Months together, they consequently meet with, and very much break as funder the tenacious Parts

of its running Binders.

There is also a second great Benefit in this new way of distant regular sowing of Beans, for here is that Room given for the Sun and Air to come at their several Stalks, which is not in sormer Methods, whereby the Blossoms are much sooner dry'd after the Rains, that not a little contributes to the Improvement of the Bean; for it is surely true, that Wets are often grand Impediments to the kerning of the Bean as well as other Fruit, by washing off the slowery Part or impregnating Seed, that is the chief Cause of the Beans and other Fruits

Fruits Germination; This is plain to the very Hedger, that the more room any Vegetable has, the better it fets for Fruit, and bears the greater Crop; for where the Sun has most room, there it has most Influence, for the setting, kerning, and Production of Fruit. It is for this very Reason also, that the Farmers Hopes for a plentiful Crop are enlarged, when he fees a dry time for the Bloom of the Wheat, which cannot per form itsdue Office, if too much Wet falls in that Season. All which Benefits have yearly yielded more and more Encouragement to the Farmer to proceed after this new Method, because they have not sustain'd that Loss from these Weeds as heretofore, fince their Sheep have had more Room to come at and destroy them: And now the Vale Farmers, particularly about Ailesbury, are brought under a uniyerfal Agreement to let them feed amongst the Beans till the twentieth Day of May, when they take them out for good, lest they eat and spoil the Blossom, which they will certainly do by their Mouths or Rub, if they can come at them.

In the Vale they reckon themselves under a better chance for a Crop of Beans when they see the Ground turns up Flitch-thorough, as they call it; that is, when the Earth is sowed and ploughed, it proves wet and heavy, this a Bean dearly loves; for then they are not in very great apprehension of the Hairy-weed, Wild-oat, nor Curlock.

Nor are they in any fear of burying their Bean in such heavy Earth, because it being a black fat Mould, inclining something to a Clay, will by the Frosts, Rains, and Winds, so shatter, crumble, and become hollow, as afterwards easily to let the Bean out; but if they are forced to sow, and plough the Bean in, when their Ground is in a dry, light Condition; they generally are attack'd with that satal and other Weeds, so that they never dare give their Ground two Ploughings for Beans.

Next

Next I come to treat of another Distaster appertaining to the Bean, that (Thanks be to GOD) feldom happens; because, when once it has got a full Power, I never knew it curable by the Art of Man; nor ever knew it happen in fuch a great Degree as it did about five Years ago; and then it became a general Calamity in many Places, both in Chiltern and Vale amongst the Beans. At first it's plain that a Honey or Mill dew was the previous Cause of the same, for this fell in that dry Summer fo thick, as shewed it felf a glutinous Substance. in great Quantities upon the Heads and Stalks of the Beans, where it foon bred an Infect, called by some The Dolphin Fly, of a black Colour, and about the bigness of a Till; these encreased into Swarms that hung on the Beans Stalks, and devoured in some Lands, both Blossom, Beans and Leaves, so that great Numbers of Stalks appeared naked, while some other Lands in one and the fame Field better escaped; in short, there was not halfa Crop, and they not fo good as at other times which enhanced the Price to above twenty-four Shillings per Quarter.

Now to account for this Malady amongst the Beans, I can only say, it is my bare Conjecture, as I have said before in the Chapter of the Wheat, that in dry, hot Summers, the Exhalations of the Sun are more powerful than in wet, cool ones; because in the latter there are not those Quantities of Vapours, drawn up and let sall as at other times; and those that are, by consequence are of an aqueous, thin Body, and therefore not capable of making Lodgments on the several Vegetables; as they do in the dry, hot Scasons, when there are greater Quantities exhaled; and they more thickn'd into this gluey Substance, that salls and does the

Mischief.

Here then appears also more of the Excellence of this new Method of sowing out of the Hop-

per in Distances, for that, as I have before hinted, the Sun's drying Power has more Room and greater Force to attract and exhauft the Wet amongst the Beans, before they can emit a stagnated pestiferous Vapour, that not only perhaps encreases this Malady, but also in some measure may be the Cause of Fevers and Agues, that are said to be occalioned by the infanous Particles of a bad Air, as is obvious from the many Parts of Kent and Effex that abound in low, wet Grounds, where the Ague in particular is more rife than in other Places, as I have experienc'd to my Cost, when I lived at Upnor near Rochester; and here I had also another Reason to remember this Situation, from the nightly Vexations of the troublesome Knats, that are thought to be bred from the Putrefaction of the Air, that the V and Sullidge which the Waters leaves on the Ground is the chief Cause of.

Also amongst Trees, I know a Family that lives in the midst of them, seldom ever healthful for want of that space that others enjoy who live in less Shade and Closure, and partakes more of the Sun's and Wind's drying, salubrious Benefits. Therefore I inter that all Cover, whether of Beans or other Corn, or Trees, &c. have all their Tendencies in the Retentions of Wets, and the many ill Consequences arising therefrom.

Here likewise is more room for two Men to shake the Heads of the Beans with a Rope, presently after the Mill-dew is fallen on them; which supplies in a great Measure a good Shower of Rain, that often timely falls, and happily washes off this fort of Bird-lime confistence.

In light Grounds, such as Chalks, Gravels and Sands, this Grain will not prosper, which made it formerly so seldom sown in the Chiltern Country; however of late, I may say within these ten Years B b

Loams, that are found to be many, even in Herrfordshire; in these Soils, in some Years they grow
wonderfully and return prodigious Crops when
the Peas are kill'd by the severity of Weather
(especially in Clays and Loams that have been
chalked.) A greater Instance of this, I believe
never was known, than the Summer 1732, every
where afforded; insomuch that they were reckon-

ed the best Crop of all other Grain.

Notwithstanding this is the biggest Grain of all others that is fown in our Fields; yet it is often buried in our red Clays, by reason these stiff, cold Grounds, being of the most surly Nature, will not shoal, shatter, nor crumble, like the black and blewish Clays in the Vale, that yield even to the very Rains and Winds; when the Frosts and other Weather, that happen after the Beans fowing, often prove incapable of reducing this Land, so as to let the Bean have an easy Passage our with its Head: Wherefore I have known it done at Whip/naud, three Miles from me, for a few Years past; that they have sown the Beans after one Ploughing, by broad-casting them on the Surface, and only harrowed them in, which has done much better than formerly, when they ploughed them in, as they did in the Vale. And though it may be thought strange that this way is preferr'd, because of the great Exposure the Bean lies under to the voracious Birds, Vermin, and Weather; yet it has been by Experience found to answer best here, because most of the Beans will get into Thoroughs, and there be busied by the Harrowtynes; for this fort of Ground by its sticking Quality, will more cafily fasten about and hold the Beans, whereby its nutritive Parts is the more eafily communicated, and forces on the Growth of this Grain, that most naturally agrees with this

this fort of Soil. And if some is carried away, there may a small Allowance the more he given in the Quantity fown. Now this Seed is to liable to be bursted by Wets, and shrunk by Droughts in such Earth at Candlemas, when they are throwed into the Ground as the Pea is, that in fuch Soil it must not be fown till March, for this gets both Root and Head by that time, whereby it is better able to resist the Extremities of Weather than the Pea, that is of a more tender Nature. The Hornbean is justly called so from the great Conveniency it gives the Farmer, to feed his Horses with: This has made it a Rule with many of them, that when the Bean fells for ten Shillings per Load, and the Oat at twelve Shillings per Quarter; that they buy the former, if they have it growing, and fell the latter that they have; because they allow. that this Quantity of Bears will go further in the Manger than a Quarter of Qats, especially if they filled which almost every Miller and Malner results on the collection we generally fow them at Candle.

An Estimation of the Bean CROP, as it generally happened in the Chiltern, in the Tear 1732. that was the greatest that ever I knew in both this and the Yales.

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DENT for one Acres of Ground one?	I. s. d.
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of the Wheel-plaugh, by which the	-model ada
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The Horse-bean, as I said before, is a Grain that is often buried in our Red-Clays, and stiff Loams, and that by reason the Head of a Bean is broader than any other, and therefore makes its way out of the Earth with Difficulty, which causes some to think it is smothered sooner in the Ground, than either Wheat, Barley, Oats or Peas. In the Chiltern we generally fow them at Candlemas, in four Thoroughs made on the Wheat Stitch, by straining them in each Thorough after the PeaStitch Plough, and then harrow the ground well, as foon as they are fown: Others will fow half Beans and half Peas after this manner, mow them together at Harvest; but then this way requires good Care in cocking, raking them together and turning them, that they may be dry'd thoroughly, and black in Stalk, Leaf, and Pod: Others fow them on a level Wheat or Barley Stubble, and plough them in Under-thorough, and harrow the Ground very well after : But to do this, that the Bean may not be buried, the present Practice is to plough such Ground with a Fin on the Sharr of the Wheel-plough, by which the Earth

Earth may be turned almost as you please; and by good Harrowing, the Bean will be deliver'd

from this Casualty.

The Reason why we sow Beans in our Chiltern, on Wheat and Barley Stubbles, and not that of an Oat or Rye, is, because that this is a Grain that agrees with a rich Ground, for to say right, the Ground cannot be too good for the Bean, as being a large rooted and stalked Grain, that draws a great deal of Nourishment, and returns not a little back to the Earth, by killing the Weeds with its great Cover, and thereby keeping the Spirit of the Earth in some degree from being too much exhausted by the Sun's Attraction, and supplying it with those nitrous Dews, that its Stalks, Leaves, Blossoms and Bodies often make a Lodgment of



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is upright Stalks, that grow about a Boot and bne daily and and and and and and and and the best of Program Tolven in the Rack as it comes out of the Hield, which the Cowa and

THETCHES are of several forts, as the great Horse-thetch, and the smaller fort, which by some are called the Winter-thetch; these are very profitable if sown in a right Soil; and at a right time; the Horse-thetch was sown by a great Farmer at Penly, in February, and only harrowed in upon his fallow Ground on one Ploughing, for his Horses, Cows, or Sheep to seed on the following Summer, either in the Rack or Field, and the remainder to plough in, a Fortnight or Month before they sow their Wheat; on this they harrow

harrow their Wheat, and drofs it with fhort Dung. or Fold on the top. The smaller West Country Winter-thetch is fown in September, for Food for the Sheep, &c. in the Winter and Spring: They first fow them Broad-cast all over a Piece of Chalk. Gravel, Sand, or Loam (for wet Ground is not proper for them) and then plough them in Underthorough, where they will make their way thorough the Ground, as being a most hardy Grain, according to the Comparison of an old Saving --- A Thetch will grow through the Bottom of an old Shoe - And therefore many fow them'amongst Peas, because if they mils, the Thetch generally hits: Their dry Haulm'is but coarfe Fodder for Horse or Cow, but the Com is good for Pigeons, and to give flore Hogs; three Bushels fow an Acre, and often return twenty. I

Tills, are the smallest fort of Cod-ware that are fown, and leffer than the Thetch, as that is the Pea, and the Pea the Beant They are fown on the poor Chalks, Sands and Gravels, where neither the Thetch nor Pea will thrive; there this will flourish and produce great Quantities on its upright Stalks, that grow about a Foot and a half high, are fowed alone, or with Oats, and make the best of Proyender, given in the Rack as it comes out of the Field, which the Cows and Bullocks will greedily eat, and fatten very fast under its keeping; Swine also are great Lovers of the Tills, and will pick up what falls on the Ground, and be much forwarded in their Flesh; Pigeons are great Lovers of them, as being very natural to their Bodies. In many Places they fow these for their Horses and Cows instead of Hay, and commonly put Chaff into their Mangers, for the Tills to fall amongst; as the Horses and Cows pull the Haulm out of the Racks, that Supplies the want of Hay and Oats: One Bushel fows

fows an Acre, and generally returns fifteen. They

are often fold for three Shillings a Bushel.

The following is the Coppy of two Letters, writ by Welliam Huyton, Efq; from his House in Clerkenwell-Green, to his Son William Hayton, Efq; Clerk of the Peace for Bucks, who lives at Joing-boe in that County.

GUILLIAUME,

OBSERVE you are to keep Court at Guilefden, where lives one William Ellis, a Farmer; I understand he is related to Dick Shil-burne, by Marriage: This Ellis has written a Book, entitled, The Practical Farmer, Or, Hertfordsbire Husbandman, containing many new Improvements in Husbandry; I have bought this Book, and find it has already born a second Edition; I let Anderson read it, and design to fend it him down, as foon as I have a little better confidered his Motions: But what I have to defire of you, is to enquire of him, for I suppose he will be in Court, the same Question I have been so long labouring to get answered, viz. How many Bushels of Wheat, Rye, and Barley, an Acre of midling fort of Ground (fuch as your common Field Land may be computed to be one with another) does generally produce, in what they call a midling Year? 'Tis a general Expression among Farmers, that this Year we have not above half, or two thirds of a Grop; but such a Year we had a fair Crop, or a Grop and a half, or fuch like; without mentioning what Quantity they mean by any of the aforementioned indefinite Terms, of half, two thirds for the like random Computation. This Gentleman goes on in the fame way of describing

· Crops; in some Places he says, by such and fuch Methods, vast Crops have been obtained; in other Places, such things yield very considerable Crops, and fuch a one obtain'd vaft Crops; but the Reader is every where left in the Dark, except in two Places, Folio 23 and 29 in his Ver---- At Dagnal, a Man that has but an Acre of Land has fown it seven Years together, and never less than six Quarters and a half of Barley grew on the same; and ----- Another that folded on his Turneps, had nine Quarters on five Roods of gravelly, loamy Ground; indeed I have just now found another Place, which I will repeat, because it relates to the good Town of Ivingboe. --- It frequently happens that the chalky Grounds near Ivinghoe, about two Miles from me, bear eight Loads of Wheat on an Acre; in short, the Book seems to be as well wrote as any one I have met with on the Sube ject; and if the Gentleman will be so kind as to answer my Question in plain English, I shall be very much obliged to him, and promise to have a Bottle of Wine at his Service, if he will be fo kind as to call at Clerkenwell when he comes next to Town.

A Copy of the other LETTER.

GUILLIAUME,

A FTER sealing my last, I recollected and other Question I had to ask Mr. Ellis, and that's about Rye———— Rye is a Grain that he speaks the least of, or about, in his whole Book; I think the whole Chapter does not contain above one Page, whereas he bestows a great many more on every other fort of Grain that he treats

treats of; perhaps 'tis because but little of that fort grows in Hertfordsbire; or because he is not willing to encourage the Growth of it in that

Country; or whatever his Reasons be, my Rea-

fon for troubling him, is to be instructed how to

improve it in Northumberland.

And first I would be informed how to dress the Land preparatory to receive the Seed? And then I would defire to be instructed how to dress the Seed preparatory to fow it on the Land? that is, whether to brine it, lime it, foot or ' foak it in Urine, Stable-stale or any other Composition; or whether it must be sown dry? For he fays, wet is fo great an Enemy to it, that a Shower of Rain will drown it in the Hopper; why then should it be fown, as he expresly says, in Autumn, about September? And a little further in the same Chapter, 'tis soon up after 'tis fown, and fooner than Wheat, and also fooner in the Ear, usually in April; and 'tis given as a Reason why it should not be sown as Masceline. or mixt with Wheat, because the Rye will be ripe much the fooner; and if fown on different Land, may be mixt afterwards.

And I remember an old rhyming Proverby,

April every Year produces Rye in the Ear; from
what Mr. Ellis says, about the quick Appearance above Ground, the soon earing, and the
soon ripening of this Grain, I am inclin'd to
think it may be soon enough to sow it in the
Spring with Oats and Barley, & for I have
been told by some Russia and East Country Merchants, I formerly discoursed about sowing Hemp
and Flax at Short-slat, because it lay in the same
Latitude with the Bakick; that the Rye of that
Country, which is esteemed the best in Europe;

is generally fown, ripe, reaped, and threshed within the compals of two Calendar Months:

I am the more pressing to get proper Instructions in this Affair, because I have this Week, bought and shippt for Newcastle, several Quarters of Rye to be fown out of hand, or as fast as he can get the Ground ready, and the Rye brined in the same manner as Mr. Ellis prescribes for brining Wheat: Now if I am wrong, either in point of time to fow it, or in my Orders about brining, I must follow him with contradictory Orders as soon as possible; I repeat therefore what I said in my last, that if Mr. Ellis will favour me with a short Letter in answer to this, and those other Queries mentioned in my last, I would esteem it a singular Favour done to his humble Servant.

'That my Meaning may not be mistaken, I have

repeated my last Queries.

Queries.

QUERY, How many Bushels of Wheat, including the Tyth, may be called a fair, custo-

mary, or moderate Crop?

Or how much may be computed to grow one Year with another (meaning those Years only that the Land is fown with Wheat) on an Acre of midling, common Field Land, neither of the most barren, nor of the most fruitful; but such as may be taken in a medium, one with another;

and with moderate Dreffing, neither too liberal-

ly, nor too sparingly manured?

And whether there be any difference between the Product of the forementioned Land, and Laclosure of the like midling fort of Soil, neither best nor worst, and both alike midling manured?

'The like as to what Quantity may be produced on the same fort of Land, when in turn Farming and Husbandry. 201' it comes to be fown with Rye, Barley, Peas,

' Horfe-beans, Oats?'

LONDON, October, 19, 1732.

MERCENCIONA PROPRENTANTA PROPRENTANTA

C H A P. XXXV.

The Nature and Improvement of R vE.

THE Answer to the foregoing Letters I intend shall be the Theme of this Chapter, wherein I have endeayoured to answer the ingenious Gentleman's Queries, but not in such an elegant Manner, as I must confess his Parts and improving Genius deserves from a better Hand than mine; however, I have wrote the best of my Knowledge, as my plain Capacity would give me leave, viz.

SIR,

ed to me at our Court, and I am heartily glad to oblige you with the Answer I am capable of, to the Queries you were pleased to mention. As to the Quantity of Wheat that commonly grows on our common Field Land, I am confin'd to an Estimation of it according to the Nature of the Ground. If on a true Loam, as we have on our hilly Land at Gaddesdew, we generally have four Loads on an Acre one Year with another for a single Dressing, with the Fold, Cart, or Hand; nor does our Inclosure here answer better, for the

one is as good Land as the other; this I call a. customary, moderate Crop (including the Tyth) on our Tilth Ground. On our Gravels, below the Hills, as much, both in Inclosure and Field Land, that are here also alike, if they are well dressed; for though this is more hungry, and not of fo rich a Nature as the loamy, yet by its more kerning Quality, we have often as good Crops as on them; but it must be more assisted with Manures. The Chalks in the common Fields are now so improved, that they also return as much Wheat as the Marly-vale Soils, even from four to eight Loads on an Acre; but with this difference, that a double Dreffing on this white Ground, is but equal to a fingle one on them. Sands likewife have their peculiar Properties, as they are richer or poorer, and require Dreffing, and Grain accordingly. In this, Soot nor Ashes are proper Manures, because of its loose Body, that won't retain their light ones so long as the Loams, Gravels, and Chalks will; and therefore with Fold, Cart-dung and Rags, it receives the best Improvement for the Growth of Rye, Peas, Turneps, Thetches, Tills and White-oats; for Wheat, Barley and Black-oats do not answer here so well as in some Loams and Clays: But the Rye in particular agrees with this dry Earth, and also on the Chalks and Gravels, where it commonly returns the former four Loads on an Acre, for fowing two Bushels and a half. This is a Grain that certainly exhausts the Ground to a great Degree, as I have known it do on a loamy Gravel, that I could not recover in fix Years; after a good Crop of this Rye was got off, by a Tenant that rented the Land before me, who fowed it on one Ploughing, presently after other Grain was got off, in August, for only his Sheep to feed on in the Spring; but this grew so well, as encourag'd him to let it stand

for a Crop, and he had fuch a good one, that vastly impoverish'd the Ground; so that wherever Rye is fown, the Earth ought to be well dress'd to prevent the like Disaster. This Grain is allowed by one and all that I have converfed with, to require a Winter and part of two Summers to grow in; and therefore they fow it in August, on a fine well dreffed Tilth, if for a Crop; but if only to feed Sheep in the Spring, they often venture it on only one Ploughing, after Wheat or Barley, and harrow it in on Broad-lands; then if it comes thick, they feed it in the Spring, but not too bare, and let it remain for a standing Crop; Thus by eating it with Sheep, the Rye shoots the stronger; and the rather for the Assistance of their Dung and Stale; but if it proves thin, the Farmer then alters his Measures, and ploughs it up for Peas or Oats. The Reason for this early fowing, is to get it a Head betime, that it may better endure the Severities of the Frosts and Wets, that otherwise would endanger its dying away, as being not so hardy a Grain as Wheat: For this so much affects a dry Soil, that it utterly refuses wet, low Grounds; and therefore, the better to fecure it against these Missortunes, where any degree of their Mischies are suspected, they fometimes fow it in Stitches on fine Tilths; or if in Grounds, that won't admit of this way, they fow it in broad Lands that are ridged up, as they do in the Vale, in order to carry off the Wets more easily: To prove the Veracity of this, the Men about Chedington and Ailesbury, never so much as attempt the fowing of this Grain, as well knowing their Labour would be fruitless, both in refpect of their marly, clayey, black Earth, and their low, watry Situation.

For as it is the Nature of Rye to grow best in dry, hollow, warm Ground; this stiff, cold, aque-

ous Land is contrary to its natural Quality; as much for ought I know, as it is to St. Forn, that is notoriously known to refuse all stiff, wet, fat Earths; because both their Roots, I suppose, would ret in the chilly Waters, that this Soil most tenaciously retains, and that perhaps, by reason of their spungy, tender Parts, that are more observed in them than many others; or else, that their Roots disagree with the unctious, marly Quality of this Earth.

It was a few Years fince that I received the Rents of Chedington Farm, in the Vale of Ailesbury, for its Landlord, while he was on his Travels abroad; and it was there, that I had an Opportunity of acquainting my felf with the Nature of this Land, which so much abounds with Water, that the Springs sometimes rise within sour soot of the Surface; and yet these Parts lie higher than many, I believe I may say, most others in this low Country; so that even here they can't enjoy a Cellar for the Stowage of their Liquors: For these Reasons also I imagine it is, that our Cherry and Beech Trees cannot be naturalized to this Situation and Clime, as better agreeing with our higher Loams and Chalks.

So likewise as to the Turnep, Pea, and Black-oat; these they cannot have in most Parts of their low, wet, sat Ground, because the excessive richness of this Soil, runs the one into most Leaf and less Root, and the others into more Straw and less Ear, which obliges them to chuse the White-oat for its better bearing, by its larger Stalk and Leaf, with their rank Ground: But even this succeeds but indisferent; for I knew a Tenant that sowed twenty Acres of them, the Season before he was obliged to leave his Farm, in order to impoverish the Ground, and do despight to his Landlord; but they came up so thin, by the disagree-

able Wets and Colds, that he made but little of them; for here they generally fow no other than Wheat, Barley and Beans.

And now I come to my Answer of setting Rye in an unusual time, never practised as I know of in

England.

It is true, that Custom does not authorize a wrong Practice, no more than Antiquity should hinder a better one; for undoubtedly, all Improvements had their rife from industrious Difquisitions, and experimental Trials, that by time spread their Knowledge, and become general Practices, to the enriching of the many Countries that share in their Benefits; from hence it was that we now enjoy the Field, Turnep, Clover, Lucern, and the several other Grasses that are at this time made free Denizons of our Clime, which were most of them Exoticks within these sixty or feventy Years: So likewise the goodness of Soots, Salts, Ashes, Lime, Rags, &c. were hidden Secrets about a Century ago, that now are common to the most rustick Swain. For these Reasons, it is most commendable in you to endeavour after valuable Improvements, because such when obtain'd, not only redound to your Honour and Profit, but to the Common-wealth in general; which plainly shews the great Good that often accrues to a Country, from such a Person, whose Abilities and Genius are extensive enough to forward such profitable Atchievements: But where the latter, industrious Part is, and the former wanting, there are undoubtedly many most useful Branches of such Importance lost, for want of those Encouragements that able Men are capable of Administring; and perhaps would be Acts of some of the greatest Benevolence and Goodness they could imploy their Talents in. But to the Matter in hand.

I knew my next Neighbour two Years since. upon a Pea Stubble on one Ploughing, harrow in two Bushels of Rye, on a loamy, moist Acre of Ground, that lay very near my House, which was intended purely for his Sheep at Spring; it was fown about Michaelmas, but very little appeared above the Earth, and what did, proved hardly worth turning Sheep into. Now this was done by the oldest Farmer in our Parish, who has rented, I think, fixty Pounds per Ann. thefe thirty Years, yet was not sensible of his Mistake, till Experience became his Monitor. For he was wrong both in his Season and the Quality of the Earth; for all Loams are moister, colder, and fowrer, than Gravels, Sands, and Chalk; and therefore he ought to have fown it more forward, and been affured it was a good Tilth; whereas, though it was a middling Crop of Peas, and the Ground tolerable hollow, yet I am perswaded, it was not fweet nor loofe enough, for it lay flat, low, and fomething wettish.

There was another about two Miles from him, that miscarried much upon the same Account; wherefore I take these unsuccessful Attempts to be owing to Male-management; for the Grain should have been sowed earlier, in a drier and sweeter sort, as I have hinted before. But if late, as in September, October, or the Spring, then it is my Opinion, if there is a Possibility to have a Crop from Seed sown at those Seasons, the sollowing Method should in some Measure be ob-

ferved.

First, Such Ground should by due Ploughings and Harrowings be brought into a fine Tilth. Secondly, It ought to be Gravel, Sand or Chalk, or Ground partly of their Natures. Thirdly, That the Seed be sown in a dry time and form. Fourthly, That it be steeped but twelve Hours instead

of twenty four; according to my new Receipt in this Book; because it has a thinner Body and Skin than Wheat, and of a more dry Nature. Fifthly, That it lie afterwards all Night on a good Drain, and in the Morning well limed and fowed. Sixthly, That immediately before the Seed is fown, twenty-five Bushels of good Stone-lime should be shot down on the middle of an Acre. and directly flack'd, by throwing Water on it; then some Men with their Gloves on, should fow it out of a Seed-cot as thin as they can, as we do Soot, all over the Piece of Ground, and then fow the Rye in Stitches as foon as you pleafe. But if it is to be fown in broad Lands, the Cafe, is altered; for then presently upon the Grounds being ploughed the last time, and harrowed once in a Place, the Seed must be sown broad Cast all over it, and then the Lime must be shot down, slack'd and harrowed in at the same time with the Rye. Or, if it is thought better, the Seed may be first harrowed in, and the Lime flack'd and fown in Powder all over the Ground, as we do Soot. Orif Coal Soot is to be had, there's nothing exceeds it, by fowing twenty-five Bushels on an Acre, either on broad Lands or Stitch, a Day or two, or a Week or Fortnight after the Seed is fown; for the Salts of the first, and the Sulphur of the last are most agreeable to such late Sowings; and this I have feen by good Experience answer in an admirable Degree; for when by the Frosts and chilly Wets, other Grain turn'd yellow and died, that under the Lime and Soot, flourish'd with a blackish green Colour, and proved a noble Crop. Or else instead of the Soot, Salt he fown over it, to the Quantity of five or ten Bushels on an Acre; this I am almost ready to believe will answer the defired End of obtaining a Crop of Rye, fown in February or March, by the same Bule that we sow DdWheat Knew

Wheat in January and February after Turneps, as I have more amply wrote of in the Chapter of

them.

For it is certain, that Art helps Nature to a high Degree, and the more, according as it is better adapted; as I remember in the Case of an Asparagus Bed. A Gentleman that had a defire to raise this pleasant plant on a loamy Ground. that had a red Clay within a Foot and a half of the Surface, was told that it could not be done; for that such a great Person had tried for one on the fame fort of Ground, but it would not do; however, it was attempted, and a large deep Pit dug into the Clay, and fill'd up with Chalk, and Roots planted in Mould on the same: The Asparagus grew; but in three or four Years complained, by coming up small; occasioned by the chilly Effluvia, that proceeded from the Water lodg'd at the bottom of the Pit; this was a fort of half Performance; for now they have got a more effectual way, by not breaking the Ground at all, but raifing a Bed of Horse-litter and Mould, to the heighth of three or four Foot, and on this they plant their Roots to great Success; for here the Water has not room to make a Lodgment, and hurt the Plants by its chilly Vapour. I have also another Reason to mention the Asparagus, that formerly by most Gardeners was treated as one of the most tender Plants of the Garden; but of late it has by experimental Observations been found to be one of the hardiest in the Kitchin Garden. Here then is a plain Demonstration of the Rectification of two Errors, that remain'd as such for ought I know hundreds of Years; and yet but yery lately feen thorough as fallacious.

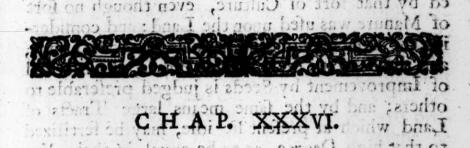
By the same Rule there may be an Amendment in the Management of Rye, and undoubtedly in

many other things.

I knew an ingenious Gentleman, and a Lover of Improvements, fow some Rye every Year in one Place or other of his Ground, in order to kill the Fern and Feed his Cattle; in other Maces he draws his great Roller over it, to spoil its Growth, by bruising its green Stalks; but where but little of it appears whipping it in its first Rise, is pre-

scrib'd as a good Remedy.

I buy my Salt Peter or Nitre of Mr. Edward, Wamstey, Druggist on Snow-bill.



ed by that fore of Culture, even though no fore

The Nature and Improvement of Artificial let the Sol bewhatsis se & A Se Bis. side of only asl

Rocky or Sandy, Wet or Dry, one or other of I have thought it a plain and expeditions Way, to write of the Improvement of the Artificial Grasses; by transcribing a Shop Bill, that was given me where I bought some Seeds in London, and making my Remarks on the feveral Sorts as they follow each other, vizi

TOWEVER the Use of Dung, and other Manures, have prevailed in most Countries, for the Improvement of barren Lands: We find by Experience, that by the Choice of proper Seeds only, many Grounds that have been efteemed Unprofitable, have been rendered so sertile, and produced fuch valuable Crops, that they have returned forty or fifty Shillings, and sometimes Dd 2

three Pounds an Acre per Ann. to the Owners; and brought the Lands where they were fown, into such an advantageous State, that the Proprietors have gained large Fortunes by such Management.

There are Instances in many Parts of England, of Heaths, Commons, and waste Grounds, that were not efteemed worth fix Pence an Acre, which have been render'd fo valuable, by fowing fome of the foreign Grafs, and other improving Seeds upon them, that confiderable Estates have been gained by that fort of Culture, even though no fort of Manure was used upon the Land; and considering the Difficulty of bringing Dung to some Lands, and the Scarcity of it in some Places, the Method of Improvement by Seeds is judged preferable to others; and by the same means large Tracts of Land which at present lie idle, may be fertilized to that high Degree, as to be equal in their Value, to most of the richest Lands in England; for let the Soil be what it will, whether Clay, Chalk, Rocky or Sandy, Wet or Dry, one or other of the following Seeds will agree with, and render it profitable.

The Sorts which are the most approved, are

the following, viz.

I. Trefoyl or Nonfuch.

II. Clover.

III. St. Foyn.

IV. La Lucern, or Medic Clover, or Snail Clover.

Seeds and many tyronal store had of Mapponia store had

V. Rye-Grafs.

VI. Low-Grafs.

The Improvement of Land by Trefoyl Sets.

ROM common Experience we learn, that all Seeds, before they are fown for general Crops, ought to be well dress'd and cleans'd from their Husks, and other Incumbrances; for if we happen to meet with such Seeds as are not perfectly freed from these Incumbrances; the sowing of them cannot be so regular, neither will they come

up, or spring so equally in the Field.

It is a just Observation made by skilful Farmers, that Tresoyl, or Nonsuch Seeds will proper well, if they are sown upon worn-out Corn Lands, and not only bring a valuable Crop, but amend the Land; and on such Grounds as will not bear Grass of any worth, the same Seed will produce a surprising Burthen; but if it might be thought proper to sow it upon such Ground as is naturally good for Corn, the Farmer will certainly receive a plentiful Return.

The Clay, Chalk, and all stiff Soils are greatly profited by it, if they are well exposed; and it is no less Benefit to rocky Ground. It will greatly improve springy or over-wet Grounds, if we first drain them from the Waters, by such Means

as are commonly used.

Being fown upon fuch hilly Grounds as are used to Moss, will intallibly meliorate the Soil, and destroy the Moss, if proper Care be taken to drain such Lands, and the Land made fine by dressing,

before we fow the Seeds.

The Virtues of the Trefoyl or Nonsuch, are that; first, it yields an excellent Pasture for Cows, by encreasing their Quantity of Milk, and giving the Butter and Cheese made with it, the desired yellow Colour, which is a certain Sign of Persection. Secondly, Whatever kind of Cattle seed on this Tresoyl

Trefoyl, will grow fat much sooner, than upon the best common Grass; but especially it is esteemed useful in satning of Lambs, and feeding of Ews: Tis also an excellent breeding Pasture for Sheep, bringing the Ews sooner to blossom than the common Pastures; and particularly it is judged a good Seed to preserve Cattle from Distempers, which some other kinds of Pastures are subject to infect them with.

The Hay made of Trefoyl, hath a very nourishing Quality in it, if it is cut whilst it is in bloom, it is soon made, and need not be dried so much as common Hay, or Clover-grass: Oxen are generally benefited by it, and grow fat by such Fodder

in a short time.

Most Farmers skill'd in the Culture of their Seed, agree that it should not come to Seed before it is mow'd, because the Root is weakned by it; and it is very certain, that the Hay is not so good as when we cut it in the Flower. The Hay is remarkable for drying of a fine Colour; and it is observable, that by cutting this Tresoyl, as above directed, it will last much longer than if we were to let it run to Seed before we cut it.

This Seed may be fowed at the same time of Oats or Barley, and among either of the aforesaid Grain, sowing it immediately after the Corn, and harrowing it with a fine Harrow once, and then

rolling it.

When the Seasons are favourable for sowing either Barley or Oats, it is then a proper time to sow this Seed; and the finer the Ground is wrought, the better will this Grass come up, and then twelve Pounds of Seed is sufficient for an Acre.

This Seed particularly ought to be well cleaned before it is fown, left Seeds of Weeds, or coarse Grass, happen to be among it, which may stint

its Nourishment, and abridge it of its Duration; but it may however be sown with red Grass, and

will last a long time.

Trefoyl is also of good Advantage to Lands, which are over-run with Twitch or Couch-grass, if it is sown with Barley; for as it grows quickly, it will so much over shadow the Couch-Grass, that in a little time it will smother it. It is also to be noted, that while this Grass is on the Ground, it does not draw any Nourishment from the Earth, which is proper for Corn; but being ploughed in when we have a mind to sow Corn upon the same Ground, it makes a very good Manure, and prepares the Ground very properly for Corn.

Remarks on the Nature and Improvement of Trefoyl.

N the first Part of this Account of Trefoyl, the Author fays, that all Seeds should be well cleaned from their Husks before they are fown. without making any Exception. This I can eafily prove to be a gross Error; for it is so well known, that this Seed is best sown in its Husk or Hull; that it's a general Practice throughout Hertfordsbire, to fow it in its black Shell or Cover; because by this means it will admit of harrowing in, and thereby be better mix'd with the Earth, and more secured from Frosts and the burstings of hasty Showers, that the naked Seed is liable to, and fometimes becomes spoiled when sowed on the top, and only rolled in; and if it is harrowed in, the Types are apt to bury great Part of this small Seed: for I have fown it both ways; therefore when we fow our Barley or Oats, we fow one Bushel of this Seed, that generally costs twenmediately after the Corn is fowed and harrowed

in; and then give this Grass-Seed one harrowing, and it's done with; for we never rolle it, till the Clover is fown by rolling in, a Fortnight after, on the same Ground: These grow together extreamly well, because the Trefoylis a fort of Antidote to the Clover, and in a great measure prevents its fatal Quality of hoving Cows and Sheep; and also for their agreeable Benefits to each other in making of Hay, and feeding Cattle; the Trefoyl being a branching, fibrous fort of Grafs, entangles it felf with the Clover, and prevents very much the loss of its valuable Leaves; which when made alone, it generally loses great Part of, both in Field and Rack; besides, it helps to shade the Roots of the Clover and becomes together, a more fatning, substantial Food, than when fowed alone; and the more, for that the Trefoyl, after the first Head is cut or mowed off, will not rally again, as our Country-men call it, like Clover; but the Rye-grass, affords but a poor Bite after that time; when the Clover makes a quick Shoot, and will get a large fecond Head.

It will grow in any Ground, and like the St. Foyn, is one of their best Friends in Chalks, dry Gravels and Sands, where Clover will not thrive.

He fays, this will not hinder the Growth of Corn, which I think is more than he can prove; for if he ever faw the Root of Trefoyl, he would find it to be a fibrous Bunch, that spreads it self in the compass of a Crown Piece, about two Inches in Length, close to the Surface, where it draws its Nourishment from the Top, and best Earth; and therefore is by some called an Impoverisher, and somewhat a Sowrer of the Ground, as the Rye-grass, and all the Shallow, stringy Sorts are: This I am sensible is a new Character of it, but I wish there is not too much Truth in it; for I have observed some of our Farmers,

that have fowed it among their Oats, on a stiffish, loamy, moist Soil, for feeding their Horses or Sheep, till about Midsummer, when they have ploughed it twice before they sowed it with Wheat; and as it appeared to me, the Grain complained, by the thinness of the Crop.

I must own, my Opinion is, that it is not capable of doing much harm the first Summer, amongst the Corn it is sown with; because the Roots are small and young, and that little it does, it makes amends for, by shading the Roots of the

Corn in a dry time.

But I have known it ruin a Crop of Wheat that was well dressed, and flourish'd greatly for a little while in the Spring, till the Tresoyl got the Master and choak'd it: The Occasion was this; a Piece of Tresoyl was mowed for Seed, which as it sheds the soonest and easiest of any other, there was so much remain'd on the Ground, that seeded it all over the next Year amongst the Wheat: Now the oftner the Land is ploughed, the greater Power it gives the Seed to do this Mischies; therefore such Ground should have only one Ploughing, and the Wheat harrowed in; this effectually buries it, and totally hinders it ever coming again.

As to its being ploughed in for Manure, I am not an Advocate for the Benefits it produces this way (unless there's no other fort can be had) because its Stalks and Roots are not of that Substance as Clover is, that I think far more proper for this purpose; yet it is call'd, only a half-dres-

fing, and French Wheat a whole one.

If the Trefoyl is fown alone with the Barley or Oats for an entire Crop, then we fow two Bushels of it on an Acre, in the manner before directed: And if Clover is fown with Trefoyl, then fix or eight Pound is the general Quantity on a fine Tilth.

E c

CLOVER,

CLOVER, and its Improvement.

ry rich and profitable Grass; the Hay made of it, is given to Cows in the Winter; being mix'd with Barley-straw, is an excellent Fodder for them; or if it is sown upon Wheat Lands in March, before the Wheat begins to spire, it makes a good Winter Pasture for Cattle.

There is little Trouble in fowing it, for it is only to be rolled; and therefore it should be done when the Ground is dry, and Rain expected; about five or six Pound of the Seed is enough for each Acre, if we design it for this Use; but if we sow it by it self, then sow twice as much upon each

Acre.

If we fow it with Barley, it brings an extraordinary Winter Crop; or with Oats, it will do ve-

ry well.

If we sow it with Corn in over-strong Grounds, it corrects the Over-surviance of the Corn; or in other Words, it keeps the Straw from growing too rank, and consequently fills the Ear; and then considering that in ten or twelve Days after the Corn is cut, the same Land without surther Trouble will be in a good State of Pasturage, it will be easy to conceive what Profit may be made by it.

All worn out Lands are greatly improved by it, for it being of a different Nature from Corn, it meets in such Land a proper Nourithment which the Corn did not draw from it, and therefore brings

a profitable Crop.

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We have of this Seed from Holland, as well as of English Growth; but the English is much proferable to the Dutch, and may more centainly be depended upon.

dilth.

If you fow your Clover alone, then cover it only by passing a Bush-harrow once over the Ground; but it must be observed, that the Ground be made very fine before you sow the Seed; and if the Season is savourable for bringing it up, you may mow it in about three Months after sowing; this lasts a long time in the Ground, if we think proper to let it remain; but as it prepares Ground for Corn, and makes Pastures of our Stubbles, it is often shifted from one Land to another, as the skillful Farmer sees Occasion.

It is to be noted, that the Clover is a very feeding and fatning Grass for Cattle; and when we first bring them to feed upon it in the Field, we must not suffer them to graze too freely upon it, but give it them with caution and by degrees, till after a Week they may be left to themselves; for which reason, it is left to tedder the Horses to what Lengths may be thought convenient, at the first putting them into such Pasture.

Clover. I his is a membrous Missiske undeed

N. B. Clover is excellent for Soiling of Horses in the Spring.

Remarks on the Nature and Improvement of CLOVER.

The Eforegoing Account of Clover, gives me an Opportunity of disallowing this Author's recommending March to fow the Clover Seed in, because that Month being often attended with cutting, sharp Winds and Frosts; the common way is to low it the beginning of April, for its greater Security; because about this time the Wheat has sufficient Head to shelter it; and the Wets being more warm, frequently fall in this Month, and force on a quicker Growth of all Vegetables than the sormer.

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Next

Next this Author fays, that five or fix Pound of this Seed is enough to fow among Grain: It's true, that good Crops have tollowed this Quantity, where it has met with a right Ground, Management and Season; but that Happiness is not always to be trusted to; and therefore we generally fow ten or twelve Pounds on an Acre for fear of the worst, that often happens from the Slug, Fly, Frost, Wets and Winds: Now here is wanting that necessary Caution that should have been tac'kd to it, that the Clover must not be fowed at the same time the Grain is, but only rolled in, about a Fortnight or three Weeks after; for if it is, and a showery Summer succed, it is two to one odds, in my Opinion, if the Crop is not a great Part spoiled by the Clover's Luxuriancy, as

I have known it several times happen.

Again, he fays, That Horses should be staked to a certain Length, to prevent the Mischief that might otherwise accrue, from the rank feeding of This is a monstrous Mistake indeed, the Clover. for no Man, I believe, ever knew a Horse suffer this way; it's true, we sometimes bleed them two or three Days after they are turn'd in, to prevent a Plethory, and so we do sometimes, if in natural Grass: But if ever he had been an Owner of Cows or Sheep, fed in Clover, he would have fix'd fome such Caution on their behalf; because it is too often known, that Numbers of them have died; not only at their first being turn'd in, but after some Days, and even Weeks have past; though it is certain, the greatest Danger is at first; by their yoracious, greedy Feeding, and the Wind contained in this frim, rank Grass, that in half an Hour has hoved their Bodies like a Bladder; and if not directly run about or stabb'd in the Flank, according to the Method prescrib'd in my first Book, Page 144, they furely die. And here I have largely wrote of this Grass, and shewed the greatest Security that I know of, and what I have several times practised with Success, to prevent this common Missortune; for as I said before, in the sirst Place it is owing to an empty Belly, that in two or three Hours is easily filled, just before they are turned into the Clover, with Hay and natural Grass; and when once they are in, due Care must be taken not to keep them out an Hour together, least this Interim should cause such an Evacuation,

as may bring on this Disaster.

The Roots of Clover are of the St. Foyn and Lucern Tribe, that extract their Juices from some depth in the Earth, by running down near a Foot in Length with very sew and fine Side-shoots; and therefore does not hurt and sour the Earth like Rye-grass and Tresoyl, which renders it a great Sweetner of the Earth, a Killer of Weeds, and a very good Dresser and Assistant; especially if ploughed in when high in Stalk, and not only so by them, but also by their many large Roots, which when turn'd up, and broke by the Plough and Harrows, rot and dissufe their Salts into the

minute Cavities of the hollowed Earth.

no

Clover, by fome is disputed, whether is does most Service to the Ground, by being eat all the Summer, or mowed twice, once for Hay, and the next time for Seed. In my Opinion, it advantageth the Earth most, when the first Crop is mowed, and all the rest eat; for by letting it stand till it is fit to mow, it kills the Weed by the Cover of its thick, high Head, hollows the Ground, shades its own Roots, and thereby prepares the Ground for the better Growth of the Aster-grass. But if sed first, then the Roots are exposed to the Summer Droughts for want of that Cover, and consequently give the Weed the greater Opportunity of damaging the Clover.

St. Forn, and the Improvement of Land by it.

CT. FORN, or Gocks-head Grafs, is an extraordinary Improver of dry, gravelly, and Sandy-foils, even though they have been over-run with Heath or Ling, or with Fern or Brakes, for this takes deep Root in the Ground, and all open, light, and free Soils are therefore good for it: The first considerable Improvement that was made by it in England, was in and about Northamptombire. on the most gravelly, fandy Grounds, where it brought such valuable Crops, as encouraged many Farmers to follow the same Practice, in cultivating it on all their light Soils, and it is now in great effect by all that know it; in Kent it is in great Perfection, upon chalky Gravel, and it is of an extraordinary duration in all Places where it is fown; even in fome Parts where it has flood twenty Years, it yet brings as valuable Crops as at the first.

The most barren Land will produce this with out much manuring, and that should be only by Marl or Chalk, if it is allowed any Manure at all; but the most export and knowing Farmers, rather chuse to sow it on such light, dry Lands, without any Manure, as may be ploughed in, and the Ground be sit to receive Corn; and when the same Ground, for Dung, it is by no means good for it, if it could be spared, we are fure however, that when it has stood many Years, it is worn by the long Culture of Corn upon it, we may again sow it with St. Foyn, which will not fail to produce a valuable Crop.

Many Lands which have been effected uncapable of producing any thing of worth, and have not brought the Owner a Shilling an Acre per Ann, have by fowing them in the manner before menti-

on'd,

on'd, been improv'd to thirty and forty Shillings an Acre, and some three Pounds; for the Root being large, and shooting deep in the Ground, it is the more capable of supporting it self in the driest Season; and therefore serves as Pastura for Cattle, when there is little Grass to be had elsewhere.

It is in many Places fown with Corn, as are the two former, and turns to great Profit; and it the Corn happens to mile, we are fure of a Crop of this. It is not proper to let it be fed the first Year, because the Roots will not then be strong enough to bear Cropping by the Cattle, who will on account of its sweetness, est it dose to the Ground, and draw it stop violently; but if it is sown a mongst Corn, it may be moved with the Gorn without receiving any Damage.

In the sowing of this Seed, as well as the other foreign Grasses, it must be observed that the Ground be made very fine; and if it is sown with Corn, the Quantity of Corn must be somewhat less than usual; March and April are proper Months to put this Seed in the Ground; and when we do sow it, spare not for Seed, for as the Seed is large, so an Acre will take the larger Quantity, sour Bushels at least must be sown upon an Acre.

Plaister, and bound in the Grais, and indeed at Ramarks, for the Nature south of Stanks, and beams, dv; yet is at full in Caye, To a vels, and beams,

HIS certainly is improved by fowing its Seed in dry, light Lands; but if he had faid, it's mostly propagated in Chalks, I should think, he would have deserved more Credit; for in my Travels, I have seen it more on the former, than ever I did in the latter; and if the Gravels are much loamed, it oftentimes misses, as I have reason

reason to complain of; for this Seed will not grow in Clays, Loams, rich, nor wet Earth; by reason (if it does take) its spungy, deep Roots will fugg; rot, and die here in a few Years; for that it requires a dry Soil, both at Top, Sides, and Bottom of its Roots.

Then he fays, this does not want much Manuring, if any at all, and that should be only Marl or Chalk. Now here he has acted the Theory Writer with a witness; for I'll appeal to all Practitioners in this Grafs, if it does not want manuring, even necessarily every fixth Year at leaft, which is as often as we dress our Wheat Land; otherwise, I am sure the twitch Grass will get up, and the St. Foyn decrease in its Crops; therefore we generally at that time, fow twenty or twenty-five Bushels of London Soot over an Acre of it at Candlemas, as thin as we well can out of a Seed Cot. This is such natural Manure for it, that in all St. Foyn Grounds about us (and they are many) they make use of no other fort, and yet we live in the chalky Country; therefore whoever makes use of Chalk for a Dressing, I think, is under the last Shift: Besides, I have known an Attempt made to improve natural Grafs with Chalk, but the Project foon dropt, because they spread like a Pan-cake, become a fort of Plaister, and bound in the Grass, and indeed at best our common Chalk is but a poor, hungry Body; yet is useful in Clays, Gravels, and Loams, when it is ploughed in, and incorporated with them, as I have amply made appear in the Chapter of Chalks.

As to Marls, I never faw their Effects this way, but it's obvious to many, that this is a most unctious, fertilizing Earth, and confequently may administer an Improvement to the lean Ground, wherein the St. Foyn grows, if it can be conveniently had; and undoubtedly there are many Places in England, where this can be got, and not the Soot: By the same Rule, for Necessity's sake, Parings of Turf, or Shovelings of High-ways may be mix'd with Lime and Chalk, and let to lye two or three Years, till they are rotted and brought into a powder'd Condition, which may do some good on St. Foyn, as well as Wood, or Coalashes.

But as I have shewn what will preserve and further the profitable Growth of St. Foyn, I will now give an Example of two Crops I knew ruin'd by dint of Ignorance, and one and the same fort of Mismanagement, One Crop grew about two Miles off me, the other within half a Mile; and fown by Men of Years, under great Repute for, their Knowledge and Practice in Farming after the downright common Way: These two Men I was acquainted with, who feem'd fo opinionated in the Matter (as commonly the old staunch ones are) that I believe they had no Mistrust of a Miscarriage; but fure enough it happened; for the St. Forn took extraordinary well on a chalky, loamy Ground; and in order to enjoy the more this good Beginning, they footed it the very fecond Year, which so enrag'd the Growth of Twitch-grass and other Weeds, that they got the start of the St. Fogn and kill'd it; because it was then in its meer Infancy, and had not time allowed it, to make a sufficient strong Root in the Ground, whereby it would have been enabled to have got the Dominion of all the Weeds, and kill'd them as they did this: Wherefore this great Lofs of both these fine Grops, ought to stand recorded as a Warning to others, to avoid the like Misfortune; and never to foot their St. Forn till the third or fourth Year. In olin J Ff

In the first and second Year it comes up singly, and not spreading, and is thereby so soon destroyed by the Couching Twitch-grass; but in the third and sourth Year, it spreads rather beyond Poppy, and produces (as has been observed) sixteen Branches from one Stalk, that is so strong, and covers the Ground so much, as kills the Twitch, which is the Reason, that the Soot must not be put on till the St. Foyn has obtained this Strength.

LA LUCERNE, and the Improvement of Land by it.

HE Plant commonly called La Lucerne, is a Medic Clover, or by some called Snail Trefoyl, or Burgundy Fodder; it is a most valuable Grass for its excellent quick Growth and Duration, and has raised some of the greatest Improvements in England: As it is of a succulent or juicy Nature, it makes Cows abound in Milk more than any other Fodder, whether they eat it green or dry: Oxen are very speedily fatned by it; and Horses are no less advantaged by seeding on it. Its Crop, for the most part, is double the Quantity of the St. Foyn, and may, if it likes the Ground, be moved three times in a Summer; but let it grow where it will, it may bear two Cuttings; the one in May, and the other in August. and carry a strong Pasture for the Winter.

The Soil the most proper for it, is light Ground, such as Sand, or Gravel, or Hazel Mould; or if the Ground be very stiff, then burn the Surface, which is called Devonshiring, or Denshiring, and by that means the Soil will become fit for it; but it has been tried in stiff Soils and moist Lands, and

has fucceeded well.

Cattle which have not been used to it, must be brought to it by gentle degrees; as we have observed before, in the Article of the great Clover.

It is good for soiling of Horses in the Spring, and is of a warm Nature; we may sow this Seed in March or April, after the Ground is made very fine, either alone or with Corn, harrowing it with a Bush; ten Pounds will sow an Acre; an Acre is enough to keep three Horses a whole Year.

Remarks on the Nature, and Improvement of Lu-

Must confess he has hit this the best of any of the Graffes. I have it now growing in four Fields on two forts of Soil; one is a high, loamy, and moist Ground, with a red Clay about two Foot under it, and here it prospers very well; the other being of a dry, loamy Gravel, was fowed after a Crop of Clover, thus: About Allbollantide, I ploughed it with the Wheel-plough, by turning it into broad Lands; after that, I ploughed it three times more, besides several Harrowings, when I had got it into a good Tilth. On the fifteenth Day of May, I liquor'd some white Oats, and fowed three Bushels on an Acre, and harrowed them in; after this, on the Day following, I fowed ten Pound of Lucerne Seed on each Acre, by throwing it from between two Fingers and Thumb, in Broad-cast Manner, and roled it in immediately: The Oats proved a high, standing Crop, not too thick, which gave the grass Seed room to grow, and become planted to my defire.

But in none of his Lecture, is there any Notice taken of its proper Dressing, nor its Shape or Make of Head or Root, nor how to save its Seed; and therefore I shall here be the more particular

Vegetable tie Pappy, that runs into a

on the last, as leaving the first to its proper Place

amongst Dressings.

This Grass, as I was lately inform'd by an ingenious Gentleman, who lived thirteen Years at Aleppo, was first known to the English at that Place, where they foil their Horses, first with mowed green Barley, commonly for a Month together. and another Month with this Lucerne; the one to scour them, the other to stop and fat them: These alternate Feedings, he fays, they find the most agreeable of all others, to keep their Horses in a due Regimen of Health and Prosperity; and that in the more warm Clime of Arabia felix, they get vast Burthens once a Month. From Aleppo, it was brought into several Parts of the Mediterranean. and particularly to Minorca, it grows in fuch Perfection, that it is now their chiefest Subsistence for their Cattle; from thence it got more forward into Europe, and is now planted in abundance of Places, and more like to be, for its many extraordinary beneficial Qualities.

I cannot find by what Authority several late Writers call this Grass by the Names of Medic Clover, Snail Tresoyl, or Burgundy Fodder; otherwise than that they have a mind to give it nominal Flourishes, without any Warrant from former Authors; who, I believe, were better acquainted with their Names, than they were: For if two learned French Writers, that compiled their History above one hundred Years since, may be credited in their Definitions of St. Foyn, those three very Names belong solely to that Grass and no other, as may appear in Page 689 of that Book, from whence I find that triple Title

is strained.

This is a Grass that runs into many Joynts and Branches, infomuch, that it is compared to that spreading Vegetable the Poppy, that runs into a high,

high, wide Growth; by which Mode the Lucerne is certainly a prodigious Weed-killer, and does not spoil and draw the Ground into Poverty, as Rye-grass and Tresoyl will; because it extracts its Nutriment after the same Method as the St. Foyn, by turning its Root, Carrot-like, very deep into the Earth, even to the length almost of an Arm; here it lies moist, and flourishes under a great Head in the driest Summer, and thereby returns a most sine, large, succulent, sweet Grass, to the great Resreshment of Cattle, while the more

shallow forts are scorch'd and dry'd up.

To fave the Seed, is what I have next to shew, as it was communicated to me by a curious Gentleman, who has fown it in Wiltsbire these many Years, and fays, this Grass in a dry Summer, will fuffer its Seed to be faved; but in a wet one, there is a great deal of Difficulty attends it, insomuch, that it has brought the Owners under a necessity of inventing a Method to obtain it; and at last one has been discovered, that effectually with due Care will answer the Purpose, and that is, at every two Foot distance, a common Stake must be drove into the Ground, in Rows (if it will admit of it) at two Foot afunder each Stake, and the Master Seedling Stalk sastened thereto, as it shoots forward; this will bring its Head (which is in shape of a Bottle-screw) to a strait Erection into the Air, where it will be the better exposed to the ripening Sun; but this is not all, for at the bottom is the main Work to be performed, by putting away its lower Shoots; which if permitted to grow in these wet Scasons, will so check the Master-seedling Shoot, as to render it uncapable of bringing Seed to Perfection ov a sile obni dody

is the best belonging to it, which this Author ray Receds be fentible of, it ever he kept Cows, and fow'd this Grafs.

RYE GRASS, and the Improvement of Land by it.

THE Rye Grass, or everlasting Grass, is of extraordinary Benefit to stiff, lower Grounds that lie wet; this is so natural to these Lands, that in the strongest Clays without any Manure, it will prosper, and bring as valuable a Crop as any Meadow; in wet Gravels, or cold, springy Grounds it does well; but especially if it is sowed with Cow Grass, or white Clover Seeds, as the best Farmers generally do in Devonsbire.

When it is mowed, it brings a rich Crop, and may generally be cut twice a Year, leaving besides a good Pasture for Winter: It is of good Service to Cattle, especially for satning of Oxen, or Wether Sheep, and particularly is remarkable

for its keeping Cattle from Surfeits.

It must be sown either in March, or April, or in September, and will endure a long time in good Heart.

Remarks on the Nature and Improvement of RYE GRASS.

RYE Grass, as well as some others, has its good and bad Properties. Its good ones are, that it comes the soonest of any Grass in the Spring; and thereby gives the Farmer an Opportunity to improve his Milch and other Beasts, before other Grasses are ready; so that by the time this is done, the Clover and Tresoyl will be sit to turn into, which indeed is a very useful Article, and, I think, is the best belonging to it, which this Author must needs be sensible of, if ever he kept Cows, and sow'd this Grass.

It is also of great Service for its hardy Nature, in growing on rough Tilths, and in poor, gravelly Grounds, that will bear little else, and because it will last many Years.

Its ill Properties are after the first Crop is mow'd off, it grows but little the rest of the Year, which brings this, and the Tresoyl under great

Disesteem.

That if it is fowed with Clover, as it is often done to preserve the Sheep and Cows from hoving, and for its early Bite; this will in three Years time get the better of the Clover, and so almost become an entire Crop of it self; but then it generally grows too thin for Prosit: Also at best it is but a very coarse Grass, which made a Person say, it is next to a Kex for that Quality.

This is a Grass that sours the Ground above all others, by the thready Entanglements of its Root with the upper Earth, which it greatly impove-

rishes by its shallow Growth.

For which reason it is utterly a wrong Grass to lay down Ground with, and converting it into Meadow Land, because of its voracious Nature, and mixing it self for many Years with the natural Grass, that it much spoils by hindring its Sale.

It's fown on a fine Tilth in March or April; if with Clover, one Bushel harrowed in is enough on an Acre; but if it is to stand for an entire Crop, then two Bushels is the least than can be sown.

nox not; but this I know, that am

because all He eventually objected

Cow GRASS, and the Improvement of Land changed base gold shall by it. We day

Teis sine of great Service for its hardy Mature.

THE Cow Grafs, is called Cow Clover, or White Clover, delights in moift Ground and fwampy Places; fo that where none of the former Graffes will thrive, this may be fown with good Success, but especially with Rye Grass, as mentioned above; as it is a Clover, it is a quick Grower, and Deftroyer of Weeds, and is of excellent Benefit to Cows or Oxen, who choose it before any other Grass; it has the singular Quality before other Clovers, of preserving Cattle in a sound State of Health, either given in dry Fodder, or to be fed in Pasturages as a grat notice a cham

Some Lands which have been fo annoyed with Waters, that they have not produced any thing of value; have been fo improved by fowing this Grafs upon them, that the Benefit has been four

Hundred per Cent. dirword wolladt en ve contin

The time of fowing it is in March and April, after the manner of the Trefoyle Black Grafs, and about twelve Pound of clean Seed is enough for an Acre. I wasm tot lot ti gaixim bas , oret natural Grafs, that it much fpoils by hindring its

Remarks on the Nature and Improvement of Cow if with Clover, one Buthel barn

HIS new Grass has but lately been introduced into the World under the fictitious Name of Cow Grass; and what Reputation it may have met with in other Parts of the World, I know not; but this I know, that amongst our best Husbandmen in Hertfordsbire, it is rejected, as absolute Honey-suckle Seed, which if true, they have certainly a great deal of Reason of their Side; because all Honey-suckle vehemently sour the Ground 3

Ground; and by its great Quantities of fibrous, stringy Roots, that sometimes stand the Strength of six Horses, when they have got hold, and a great Predominancy in the Earth, which in too many Grounds is plain to be seen; insomuch, that whole Fields are over-run with it, occasion'd chiefly by the two Horse Teams, who have not Strength to draw the Plough through a sufficient Depth of Earth, to undermine and tear up their Roots, from whence often ensues Destruction to the following Crops; especially the Lent ones, that are frequently very much choaked by the Honey-suckles suxuriant Growth, in wet Summers particularly.

Now what has brought this Cow Grass under the real Suspicion of its being a true Honey-suckle, is, its being like it in Leaf, Root, and Quality; for the first like the last, will grow in swampy Grounds, and return vast Crops, rather beyond the Clover; but then the After-effects are so feared, that, as I said before, it is in disuse with us.

Further Annotations and Remarks on CLOVER.

Farmer with us, Clover is seldom sown amongst his Barley, because of its rank Growth in a wet Summer, even to the endangering the misseriage and crippling of the Crop; for that the Barley is less able to withstand its Luxuriancy, than either the Wheat or Oat, and that for these Reasons —— The Stalk of Barley is generally shorter, than either of the other two, as being not so long joynted as the Wheat or Oat, which is visible in particular at the upper Knot of these Stalks; for upon Examination, the highest Joynt of the Wheat or Oat, is commonly found to be as long again as that of the Barley; and therefore G g

they are more out of the Clover's Power, by so much as they are higher, and have a greater Potency to shade, cover, and retard its Growth; this generally induces him to sow his Clover in February, on this Wheat Stitch, which being well dressed and in a sine Tilth, often takes extraordinary well; this he feeds one Year entirely, and the first Part of the next Summer, till he mows or feeds off the first Head, when he ploughs it up two or three times, and gets either a Crop of Turneps, or Wheat again; or eats it all the second Summer, ploughs it up in Winter, and sows it with Barley the next Spring. But of late, he only lets it stand one Summer, as thinking the Ground becomes sour by seeding it two. Some sow the Clover on Wheat in April.

Another, I knew, that fowed his Wheat Stitches with Clover in the Spring, and for a Trial, got a large Bundle of Bushestied fast together, and by the End of the Rope drew it up and down the Stitches of half the Field; this received the Seed very well, but the other half, that he did no-

thing to after he fowed, had no Effect.

Clover with Oats. This Seed he harrows in with his Oats, without any Pole a-cross them, as being more sure than roling it; because the Fly, Frost, Slug, Wet, Winds, or Sun, have not the Power to hurt it; when it's envelop'd in the Earth, as when it's confin'd only to the bare Surface, and nakedly expos'd to the several Devastations; besides, as there is only one Ploughing to the Culture of this Grain, the sour, surly Quality of the Ground has less Power to hurt the Seed when it's harrowed in with the Oats, than when it is only sowed and roled in.

Clover with Barley. If a Crop of Clover is intended to be got with Barley, then it must be sown a Formight, three Weeks, or a Month after the Grain, Grain, and only roled in, as I have before hinted, which generally prevents this Damage: But here! I publish the several Methods, that the Reader

may make his better Choice. The radions at area.

Clover with Peas. If a Crop of Clover is defigned to be had after Peas are got off, then when the Peas are harrowed, Clover Seed should be also harrowed at the same time; but here he runs a Risque, for if the Peas are a great Crop, it's a Wonder if the Clover is not kill'd by their Cover; but if some of it takes, it may be thickened by sowing a sew Pounds on an Acre, just before the Peas are hooked or mowed, which by the tread of the Workmen, will be forced into the hollow Earth, and very likely become a good Crop.

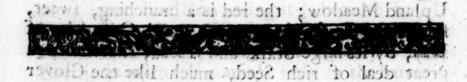
Clover with River Scaling may Clover be have

Clover with Rye. So also may Clover be harrowed or Roled in with Rye, either in August on
the Spring, and become a good Crop, without
damaging this Grain, whose Stalks growing very
high, are the less subject to the Clover's Fury.

Groups that, s'a stanka Granton on to a leiting Sward, and which I can furnish say Person with,

HE Honey fuckle, both red and white, I write on as two of the capital Sorts of our Upland Meadow; the red is a branching, sweet, substantial Grass, that returns good Quantities of Hay, by its large Stalk and Head, that holds a great deal of rich Seed, much like the Clover Head; this is ripe before the White Honey-suckle, and are both such good Food for Cattle, that they sometimes cause the Horse to froth at Mouth, when it is cut in its full Sap. The Penny, or Rattle Grass has a Leaf like Wood-bine full of Notches, blows with a yellow Flower, and when that goes off, and its brown Head rattles if theken, then it's time to mow it; this in particular is so nicely observed by the Middleser Hay Farmers, Gg 2 Places,

that they most carefully mow it before it sheds its Seed, because their substantial, heavy Bodies, contribute very much to the Weight of the Hay; There is another fort of Grass that blows with a yellow Flower, and much resembles these of a Furze, is three-leaved like Trefoyl, carries three Bloffords together on its top, by fome called the Ladies Finger, and iscreckoned the best for Catthe The Plantane Grafs, is a large, high stalked. fweet Grafs, very common with us; its Goodness, I hear, has tempted fome to get whole Fields of its best fort in Wiltsbires There are many other Graffes that grow in my Meadows, that would be too tedious for Relation here, though they justly deferve a Detail of their Make and Natures ; and especially those Sorts that grow in the rich Meadows in the Vale of Ailesbury, that lie not far from me; which are of that extraordinary feeding Power, that their Hay alone will fat an Ox or Horse, when ours will not; which makes this Hay feed the best of all others to sow at first on Ground that is to be converted into a lasting Sward; and which I can furnish any Person with, that is defirous of so great a Good, I II



write on as two of the entital four of our

I lead; this is ripe before the White Honey (uckles, trailare both (IIV XXXX co. 9 A (H 3), what they sometimes easily the Horie to Rathar Double,

WEEDS, their Myobiefs and Remedits.

tail'd on Man's Posterity, for his Disobedience to his Creator, do visibly shew themselves, and act in Opposition to Man's Interest in most Places, Places, where Care and Diligence do not supplant their several Mischiess. To which End, I shall describe the Make, Nature, and Remedy of some of the common forts that usually intest our Fields, that cost some Farmers many Pounds a Year to check and prevent the spoiling of their Crops.

edvis the lame as that lor the Oats than baA

Crow Garlick, fometimes runs up ashigh as the Wheat, with Heads and Seeds formewhat like Onions, but not fo large ; it chiefly grows amongst Wheat and Barley, and not fo much amongst Oats and Poas, at least it is not so much minded in them as the two former. It is fuch an abominable flinking Weed, that when the Whead is at Markee, and this Seed perceived to be mix'd but in a finall degree with it, the Buyer commonly calls it the Devil of a Sted, ans he also does the difagreeable Scent of the Melilot. One of any Daysmen told me, that he and another, as they were weeding of Corn, spied some of the Cow Garlick, which for much resembled young Opions, that his Partner fald she would fit gdown and car his Bread and Cheese with a few of theme accordingly, he cut about ten close to the Ground, but it was not long before hey began to swell the Man, and forc'd him home us faft as he could well go: where happily his Wife gave him a Dofe of Phyfick that the had by her, and faved her Husband. This Weed grows in many Grounds, but chiefly in the stony, clay Soils; and is best kill'd by Winfer Fallowings, and frequent Ploughings 10

Melilot, is a Weed that affects both Vale and Chiltern, by growing amongst Wheat and Barley, but mostly in Peas, Oats, and Beans, where it comes up much like Lucerne Grass, about two Foot high, and as much in Breadth, with a yellow Flower, and a black Seed like Tresoyl: If its Leaf or Seed is rubbed, it will stink the hands for four

four or five Hours; and is so hateful to Horses, that they resuse the Oats it grows among: It is mostly found in stony Clays, and wettish Grounds, which, if cross-cropt, by too often Sowings, will produce this horrid Weed, as well in the Barley and Wheat, as in the other forts of Grain. Its Remedy is the same as that for the Crow Garlick.

Wild Oat. This Weed is notoriously known to be the most pernicious of all others, by reafon of the great Difficulty that attends its Extirpation; for where this has got Footing, it feldom is totally vanquish'd; because where it grows amongsto Grain, its Seeds are ripe, and scatter themselves before the Corn is fit to cut, whereby it propagates it felf, and encreases in the Ground. to the great Damage of future Crops for they are of fo hardy a Nature, as not to be fo foon killed as other Weeds, which has begot an Opinion in some, that if Ground over-run with them is laid down for feven Years together, yet will they not die in that time; but will shew themselves an gain on its being ploughed up and fown anew with Grain; but this I do not altogether credit; however, it is allowed by the most judicious, that new Ground produces them most, by reason it is feldom fown thick enough with Corn to tame its Lxuriancy; and where Grain comes up too thin. the wild Oat often fills up the Vacancy, which shows the Benefit of allowing the Ground Seedienoughed for fome lay, and I think with a great deal of Judgment, that the best Cure is to sow the Land thick, and then the Corn will choak the wild Oats. I It is observed that some Ground is so subject to them, that where the Lent Grain misses, they will be fure to have this Weed for a Supply; which makes some say, it is the Nature of the Ground that breeds them: They mostly grow in the Vale, and in the Light Loams of the Chiltour

tern; in the latter of which, it was my Misfortune to have too many of them this last Year come up in a small ploughed Field, that had been a Meadow about ten Years ago; here my Wheat proved too thin, and up came the Wild Oat, and spoiled most of my Crop, which will oblige me to fow it with Oats, Clover, and Hay-feeds this Spring, in order to have it a Meadow again, and overcome the dismal Weed; which is also often bred by Grounds being too long, and too often fown with Corn. Their Remedy is Winter Fallowings, and frequent Ploughings of the Earth, with fometimes chalking it well; but these will only check it, and not kill it so soon as full Crops of Grain, and pulling it up by the Roots while green. If it takes in Wheat, the Ground must have a Winter and Summer's Fallow directly succeed, which one of my Neighbours has found the best Cure of all others. W lotion 21

Mustard Seed. This Weed chiefly grows in the wet Grounds of the low Vale, where it runs up about two Foot high, with a yellow Flower much like unto Curlock, chiefly in the watry Thoroughs, between their half Lands; and therefore does but little harm, because it does not grow among the Corn, but is annually gathered as a most valuable. Thing by the poor People.

Curlock seldom grows among Wheat, but more amongst Barley, and most of all in the best Grains, where it does most Harm, by branching and choaking the Corn; it has a yellow Flower, runs up to Seed like a Turnep, and grows chiefly in the light Chalks and Gravels, especially on fine Tilths, for it hates a heavy Earth.

Cats Tail. This Name owns two forts of this Weed, the Blew and the Green, but the Blew is the worst; this shews itself once in three Years, in Ground that is subject to it; where it commonly grows

ewore.

grows most in Peas and Oats, in dry, chalky, and gravelly Grounds, with a large Head and downright Root, sometimes over-running a great deal of Land, to the vast prejudice of the Corn. The Cure is either pulling them up in June or July. or ploughing with a Fin in Winter, that will cut their Roots in two, and cripple their aftergrowth. Also by digging with the Mattock.

The green Sort grows in wettish, flat, loamy Land, where it mats, branches, and hangs together like Twitch Grass, and choaks the Corn. but is mostly found amongst the Lent Grain. They are always in the Ground that is subject to them; and their Roots like a Honey-suckle, which certainly fours the Earth to a great degree, as all the matted Tribe does. Their Cure is often ploughing with a Fin on the Shar, and their fibrous, strin-

gy Roots carried off the Land.

The Seed of this capital Weed is seldom or never observed, it finks as bad as Melilot, branches and Roots more than the Honeyfuckle, and is a greater spoiler of the Corn; it mostly grows in white and gravelly Grounds. The Cure is chiefly by the Mattock, to dig them up deep and break the Ground well, carefully carrying away all their stringy Parts off the ploughed Land; this will destroy them, but the Plough won't: They sometimes take such hold of the Ground as to fet fix Horfes.

Hog-weed. This is a general Weed, that rues over most of our ploughed Fields in the Chiltern, especially where the anggish, indolent Husbandman has the Culture of them; for nothing will kill them but downright Diligence and Labour; they take sometimes two Foot into the Ground, both with their Tap and Side-shoots, and run up with a great Stalk, and large, high, feedy, white, yellow Head, that brings forth a flat Seed like a Gar-

a Garden Parinip. I formerly bought a fix Acre Field, that was so over-run with them, that I be flowed three feveral Diggings all over the ploughed Ground in the Summer Fallow Scafon, and brought up many of their deepest minute Parts; which cost me, I believe five Pounds; yet this proved only a Check and not a Cure; fo that I was obliged several Yoars after, to cut them up in Weeding-time, and have two Men to follow the Plough with Mattocks, to chop off part of them as they appeared in the Thoroughs; which with the Fin on the Shar, will in time overcome them? but the Cuttings of the Hogs-weed must be care ried off the ploughed Lands, left any take Root by times do to a great degree, wheracorant stal gailed

May-weed. This is a flinking venemous Weed, with a white Flower, well known to more of our Chiltern-Respers, who formetimes have their Hands and Legs to blifter'd with it, that they are not capable of working till they get the cured by House leck and Cream. It mostly grows upon wet, loamy Lands, and Gravels, and is chief ly produced by four Tilths, and wet Scafons which makes a dry Ploughing-time, and a fweet Tileh the only Cyre, or nomine from star ; 100 A

Poppy. This is another Weed that rebs the Ground of that Nourishment that is due to the Corn and chiefly grows in white and gravelly Grounds, occasioned by a fine Tilth, and a dry ploughing Scalon, which makes a wee heavy one young, flecking them with an Iron Paril Rades

Honey-hekles The is a more powerful Week that by its stringy Roots will, next the Camock for a froig Team of Horfes; but this Character is only confined to old Roots, for the young ones are not of this tuff Nature, yet will certainly are rive to the degree of Mischief, if hor kal'd in time; and of this great Misfortant have most of Hh

the two Horse Farmers reason to complain, besaufe their Strength is not capable of eradicating their tenacious Fibres, which is certainly best done by deep ploughings; and therefore feveral Fields about me are fo over-run with this Weed, that it feems almost like a Clove, or all one Head; infomuch, that I have known it tempt my next Neighbour, indifereetly to let it stand for a Crop of Grass the next Summer, for the Subsistence of his Horses, Cows or Sheep; but then he did not consider, while this is feeding, it is all that while making a stronger and larger Root in the Ground, whereby it becomes a greater Sowrer of the Earth, and Killer of the Corn, which this will sometimes do to a great degree, where (especially in a wet Spring) it has got a sufficient Footing in the Land. The Cure is good Ploughings with strong Teams, and giving the Ground its due Fallowings, for Cross-cropping, is a great Promoter of this Weed His em flow to sldenes on one with

The Thickle is said to be an Indication of good Land; but wherever it happens to get Possession, it is no welcome Guest, for that it does its share of Damage amongst Grain, proportionable to its Root; it is most common in the rich Vale Lands, and too often in our Chiltern Grounds, where in both, if it is let stand till its Seeds are ripe, the Winds will carry its light Flue to great Distances. Its Cure is often Ploughings, due Fallowings, the bite of the Sheep when the Weed is young, stocking them with an Iron Paddle, sowing of Clover, and good Weeding at the proper Seafon.

Wild Thetch, Tyne, or Bind-weed, is an ugly Companion amongst the Corn, especially is the Spring-time is attended with Wets, and Colds, for then it's natural for this Weed to get the Pre-dominancy of the Corn, which was shown this last

Summer, 1732, in the moist Clays and Loams, where it grew up Creeper-like, and proceeded in its Altitude, from the Foot of the Wheat Stalk, and gradually so twisted about it, till it got up to its Top, and by its Weight, hauled and pulled down the same, to the destruction of its Ear, and this it sometimes does to almost a whole Field of Wheat. The Cure is good deep Ploughings and due Fallowings, also well chalking the Ground; for according to my Observation, it comes most where those three are chiefly wanting.

Dock. This Weed runs into the Ground, like a Radish, as to its depth and bignes, but is much easier propagated; for a small bit of this is apt to take Root and grow; they impoverish the Ground, and do a great deal of Mischief to the bad Husbandman's Land, by their easy Enercise; for if they lie on the very top of the Ground some Months, they will grow afterwards if they can get into the Earth; some say they are good for nothing, wothers say, in Dock out North, and Dr. Quincy, that they are good in Dock Drinks, and Dr. Quincy, that they are good in Dock Drinks, and for Cutaneous Distempers. Their Cure's by pulling them up in wet Scasons, and carrying them off the Land; or by gathering them after the Plough and Harrow. Wein The place of the plants of the Land; or by gathering them after the Plough and Harrow.

their Seed of Meedles are about an Indivated that their Seed of Meedles are about an Indivated that their Seed of Meedles are about an Indivated that to Pipees when they are threshed with the Grain, and are that to diefsout. In Their Care is fowing clean Seed land be a bishold with the clean of the court of the clean of the clea

Wheats like the True weed and edded his damage much like the True weed and edded his damage much like the . His Seed is the found! Built The Curo is followed a great a Quantity: If not in the great a Quantity: If not in the great a Quantity:

that comes up in a fine. Tilth with the Wheat, leeps it Company till Harvest, is about half the Length of the Wheat at that time, and if in too great a Quantity cripples it, to the Farmer's great Lois. It has a yellow Flower, and its Seed a flat rough Burr. The Cure is very difficult, for some have attempted to cat it off with the Wheat, and failed, for they will not sat it if it is old; others have turned in early and succeeded better. Another I knew that turned his Sheep in early enough, and say both that and the Wheat up clean, but this being done on a wet Loam, and a cold wet time following, the Weed repovered before the Wheat,

take Root and growgood the Gropword bas 100 H stat

Black-bennet, About the fourth of May 1730. The Black-bennet began to thew itself a Footlong. both in Tilths and Lays, having had a wet Spring and Enterly Winds succeeding before that Day In this case the latter lowed Wheat fared best. because when the severe Weather was ever its Youth caused it to run faster than the forward Sowed, and got the better of the Bennet, when that became let. by its carly and longer Growth, that gave an Advantage to the Bennet to be predominant and cripple it: This Weed stracks the Wheat mostly; and fometimes others, chiefly in Clay wer Learny Ground, shd now and then in Gravels; where it makes often a great Defolation, and Spoils great Part of the Grops; It is becafioned by a four rough Tilch and a cold wet Spring. The best Cure is a sweet said sine Senion to fow the Grain in, and a well-dress'd and chalk is Ground.

Darnel. This is a rantpant Weed shae mostly burts the Wheat, because in Barley, its Quality is to add Streagth to the Beer, by making it more heady, which cause the Malsten not to find fault with it, if not in the great a Quantity But

as the Colour of its Flour is brown, rough and of an ill Scent, the Mealman much hates it. This is a most multiplying Weed, for many of its high Stalks will carry twenty Side-shoots, and every one fix Corns in it, so that twenty of its Heads are enough to spoil half an Acre of Wheat: It is of fo hardy a Nature, that it's usually said, the Dunghil will carry it to the Field; That is, it is fo difficult to kill, that it will often endure a Winter Ledgment in the Dung, and yet grow when it is brought with it into the Field. The Cure is, well the fing the Grain with a Screen or Wire-Sieve. which will take most of it but, and by often turning the Dunghil. I knew a Farmer that Rewood fixty Pounds a Year, fay that he lost twenty Pounds all others; because on his Stall arrisYabnonigreyd Chefs. This is a Darnel that grows in 2 differ rent manner, hanging in little Bunches, on imall Stalks that are about an Inch long from the great an Cockler Is white Seed with a black Hask full of white Plous, for which reason the Mealthan does not much dispute its being amonght the Wheat if down two great a Quantity of oreventehis Daniel and all other Weeds; the only way is always to fow clear Seed of or itis a true Maxim, that Weods have the Preseminence over all other Vegetables Langly Beef, God a Weed I Have hereblo of sequipled In the partition of the best of a good Cop Bendes, that has partly been the underng of many Tenants, and also a Loss to the Landlord and Nation; It is therefore that I recomissed this Sort of Man as the first and greatest of his Care to provide him-Left with or in case of a large Quantity of Land,

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fe herdy a Mature XX the Ha Ha hat is, it is

to difficult to kill, that it will often endere a Winter A Rature, aud Improvement Ofthe Paiou entrad.

brought with it into the Field. The Cure is, well N.D. Dwhere Labell begin with writing on the behalf of the Ploughman: This Servant is allowed to be the Capital of all the reft, and sherefore has the greater Wages and Liberty of all others; because on his Skill and Mabour greatly depends the Success of all the atable Crops, which in many Places is most of the Farmers yearly Alla this Man thon is but justy indulgid in those two Properties beyond the other Servants. and to fay the Truth a good Workman in this Science deserves doublet in my Opinion of white, that has this Knowledge but its patturfor if good Skill does not accompany his Labour, he may make two Ploughings where one will sterved, and mot bring the Land into 60 good a Tilth as the other with que, which is frequently as Difater of very dil Confequence to the Farmer, because he not only hereby lofes his Time, Change and Labour, but also the Benefit of a good Crop besides, that has partly been the undoing of many Tenants, and also a Loss to the Landlord and Nation; It is therefore that I recommend this Sort of Man as the first and greatest of his Care to provide himfelf with; or in case of a large Quantity of Land, Hind, Baily, or Overseer, that knows how to give Direction, and is a Judge of the best Methods for the Improvement of fuch Undertakings,

The Plough is an Instrument that is so univerfally known, that it needs no Harrangue either of Prose or Verse, to set forth its great Utility; and therefore I shall proceed directly to treat of its Management, both in Vale and Chiltern, viz.

ploughed, till the gnidgud slavin and then they

HE Vale of Ailesbury, if I am not mistaken, is accounted the next greatest and best in England, to that of Esbam, which extends it felf through the Counties of Gloucester, Worcester, and feveral others, along the River Severne; and are both fo exceeding fertile in their natural marly Soils, that they are justly called the Magazines of the Nation; for when these fail in their Crops, a Scarceness and Dearness consequently ensues ? Here then is required less Art and Drefling to obtain a Crop, than in the Chiltern; because their Ground mostly lies in open Fields, under a certain Rotation of Practice, which is obvious spevery next Neighbour; fo that Farming here requires more! Ability than Skill; however, they are not without their Inconveniencies attending these rich Grounds, as the Rot of their Sheep. the Flood of their Lands and many others, that necessarily have brought on different Methods of Farming, from that of our dry, high Country.

Here the Foot Plough is almost altogether used, as the best of all others for its Operation in their wettish, muddy Grounds, that are free from the Opposition of Stones; and with this, they were destroys work their Land, by ridging up and casting down.

Ridging up, is done by beginning in the middle of a half Liand, or half Agre (in which Halbion, most of all their Vale Grounds lie, for the greater Convenience of carrying off the Water) with the

the Foot Plough, which the first time of Fallowing fills in the great Middle-thorough, that was lett when the last Grain was fowed thereon; by drawing the Plough up and down each Side of the middle of the Land, till the half Acre is all ploughed. In this Mode all their Ground is ploughed, till they fow their Grain and then they alter.

Casting down, is only done the last time when they sow their Seed, by beginning at each Outside of the half Acre, and ploughing every Thorough down, till they come to the middle; when they leave a large Thorough, wide enough for a single Florse to go along, without offending the

Corn, if it is not too high.

For Wheat, they begin to plough or tallow up the Bean Stubble in April for the first time, and harrow it down before they plough it again, which is all the Harrowing they give their Wheat Land; then about Midfummer they plough it again, and let it he till the middle of September, when they plough and fow the last time for good: But the more industrious Man will give his Wheat Land a Fallow in April, and two Stirrees between that and fowing time, fo that in all there will be four Ploughings. Now the Fallow Ploughing is performed by ridging up, and fo is all the two Stire rees after the fame Palkion; but the last Ploughing is done by casting down the Land; so that they harrow but once, and that is after the first Ploughing; and at last they leave a large Thorough in the middle, unless it be in a very low, wet Piece of Ground, which fome always ridge up, the better to keep it dry. Inweb and

For Barley, they plough the Bean Scubble four or five times in all. The first Ploughing is begun in April, for they say, Better on April Sop, than a May Clot, which often makes the Sluggard put

forward

forward to get his Ground ploughed in this Month; then they harrow it before they plough it a fecond time, which is about Midsummer; and at Albertide, they plough it a third time, and let it lie till March, when they plough and fow for good. Here then is one Fallow and two Stirrees, that are done by ridging up, and the fourth time by casting down and sowing; some of the best fort will give it a Fallow, and three Stirrees before they sow it.

For Beans, they give the Wheat or Barley, Stubble only one Ploughing, by casting down the Land, and harrow after sowing; which some do presently, others not till the Beans appear: This is usually done at Candlemas, according to the rhyming Proverb, At Candlemas Day, it's time to sow Beans in the Clay.

Peas are done after the same manner, but some-

Chiltern Ploughing. Toll in olden vi

much from him in the Vale, and particularly as to his Ploughs; for as the Valeman uses but
one fort, the Chiltern-man is obliged to occupy
no less than three several forts; and they are the
Fallow Plough, Pea Stitch, or Scent-seed Plough,
and Wheat-seed Plough; besides the necessary
Occasion there is sometimes for the Foot Plough,
the Kentish Broad-board Plough, the Creeper, and
the Swing Plough. All which I shall by and by
say something of.

At Carrington near Dunstable, on their high, clay Ground, they sow all they can in Stitches, to keep the Corn dry; for in these, the Roots are more exposed to the Sun and Air; so in Gray vels and Chalks, they more frequently than sort

merly run upon the Stitch; because in all Soils. it faves the Rains and Dreffings better than the broad Land; for as the Rains fall on the Stitch. it washes from the upper Part downward; by which the Goodness gradually descends on the Sides and lower Parts, till it comes into the Gutter between the Stitches, and there meets with the Bottom Root: And of Stitches, the leffer one is accounted best in the Clays and Loams, because it lies more sharp and open, for the reception of those Benefits that the kind Seasons afford. This Way has got into fuch Esteem at that Place and Kensworth, that several there sow their Oats in Stitches; by first bouting up the Land in November, and in February or March they fow the Oats in four Thorough Stitches, by a Man's following the Plough, and straining them into the Thoroughs. But in Gravels and Chalks, their Stitches are fomething broader than in the Clays' and Loams, as being drier Soils; and are commonly made at the rate of eleven, to two Poles length; which, and other Ploughings, I shall describe as follows, viza

Broad Land Ploughing, is what is oftenest done both in Vale and Chiltern of any other, and is commonly the first Operation that is performed on a Stubble of Corn, or lay of Grass, with either the Fallow or Foot-ploughs, being drawn as close as can be on the Ground, and turning the Land, Thorough by Thorough into a flat even Shape and Form. This Method being easiest for the Horses, at the first breaking up of the Grounds commonly precedes and makes way for that of Bouting, Four-thoroughing, and Hacking, &c.

and is called clean Ploughing.

Bouting, or Bouting-up, is a Half-ploughing of the Ground, by making a fingle Stitch, either from off broad Lands, or Wheat Stitches; it is

done as the first fallowing about Albollantide, to prepare Wheat Stitches for sowing of Barley or Peas, by making one Thorough, which raises a finall Ridge of Earth, then at near a Foot diftance another in like manner; both these together become one Ridge or Bout, and is very proper for giving the Frost an Opportunity to kill the Weeds, and sweeten the Ground. Next time is the middle of February, when they bout it down, and harrow it plain cross-wife, where it lies perhaps a Fortnight, and dung it all over; then plough it into broad Lands, and harrow in Barley. This Bouting, is also done by ploughing two Thoroughs off a Barley Stubble at Albollantide, within a Foot of each other, that makes a Ridge or Bout to prepare the Ground for Peas, which is to lie till the middle of February, when the Bout is to be harrowed down; and at the beginning of March, they plough it the same way as it lay before, into Four-thoroughs, which they fow by straining in the Peas, and harrow it directly down. Bouting is also performed in Summer, by first ploughing the Oat Stubble into broad Lands, in the Month of April, which is called Fallowing them in June; that must be harrowed plain, and ploughed into Bouts, that may lie till a Month after, when it is to be ploughed up again, which will clean plough that Ground that was not broke the last time; by running the Plough this time backward and forward through the middle of the Ridge or Bout; this will raise another Ridge, that will lie directly upon that which was a Thorough before: Then a Fortnight, or Month before the Ground is fowed, it may be either backbouted or thoroughed down, and harrowed a-cross directly; when it is in right order to fow Wheat in Stitches.

Ii 2

Bout-

Thorough on each Side of the Ridge of the Bout, whereby a fleeving, or a narrow, thin, Ridge remains in the middle; this is done on purpose for the Harrows to pull down, as they are drawn across the Land to level the Ground, by preparing it for the last ploughing and sowing of Wheat.

This is also called Back-bouting.

Thoroughing-down, is a Work fometimes done inflead of Bouting-down, or Back-bouting, by drawing the Wheel Fallow-plough only once deep-ly through the very Ridge of a Bout, or Stitch, and laying it in order for the Harrows, that will, by drawing them a crofs, level the Ground ready for ploughing and fowing of Wheat; and it is performed as well as the Bouting-down, according as the Earth requires; for if it is very fine and loofe, then thoroughing down, as it is less trouble, will be sufficient; but if it is not in quite good Order, then Back-bouting is the more necessary, by rea-for it fines the Ground fomething more.

Four-thoroughing, is performed by the Wheel Fallow-plough, when the Ground has been the time before fallowed into broad Lands, and harrowed plain; this then is instead of a Stirree, and will fweeten the Ground to an admirable degree in the Summer, against the Wheat Season, which fome harrow, and fome doe not, before the next Ploughing; and that is, bouting up thefe Stitches, which is the third Ploughingy the fourth is Thoroughing down, and Harrowing plain; then it is ready for fowing Wheat in thefe Four-thorough Stitches, with the Wheat-feed Wheet-plough. This is not quite clean Ploughing yer is reckoned the very next to it; because this way bridge the Earth under an expeditious Fineness and Sweetness; by reason it breaks and exposes most part of it to the Sun and Air, by-its higher Situation than the

the broad Land; for by this Mode, the Land is raised beyond its common Level, and thereby can better discharge the sugging Wets, that often by their long lying on the Clays and Loams, four the Land; this Way is done by drawing the Fallow-plough backward and forward, till Four-thoroughs are made almost close together, which is a fort of ridging up; beginning first with one of the uppermost Thoroughs, then almost close to that another Thorough, whose Earth will joyn that which came out of the first; then on each Side of them, another Thorough must be made as before, which will compleat a Four-thorough'd Stitch. This is fomething a more tedious Operation than the broad Land, but generally fufficiently pays for both Time and Trouble. The Wheat Stitch lies very apropo for this Work, and is often at Albellantide ploughed into Four-thoroughs, that remain fo till the next Spring, when they harrow it down, and plough it again into the fame Fourthorough Stitch, in which they firain their Peas, with the Wheel-pea Stitch-plough. .

Hacking or Combing, may be called a clean Ploughing, if the Ground is fine when this is done. and the Plough-man leaves not too great a Kicker; for this way is commonly the last Operation but one, just before they plough for good to fow Wheat, Barley, and Turneps: It is done on broad Lands, by making a Thorough with the Fallow Wheel-plough, and making another fo close, that it throws in that Earth that fift came out, and fills up the Thorough again; then they sometimes leave a small bit of Ground, which they call a Kicker or Sleeving; and then make another Thorough, and so proceed, by throwing that in again as they did the first. This Way is a prodigious Sweetner of the Ground, and tears it all to Pieces with the help of the Harrows that directly fucceed succeed this Ploughing; then the next and last Ploughing is done a-cross the Land, which still

adds to the Fineness of the Tilth.

These several different Ways are of very great Moment in getting Ground into Order for the reception of the Seed, which is the main Art of Farming; else the Weeds, and sourness of the Ground are apt to become Master. And as the Farmer is obliged to keep Seasons in Ploughings and Sowings, he hereby has an Opportunity to get Ground sweet and clean, by a skilful Method in a confined time, which otherwise perhaps could not be done, as often is visible in Grounds of Turneps, that are cat off by Albollantide, Christmas, or Candlemas. These times call for various Managements: If at the first two, then the Earth should be Bouted up and let lye till the middle of February, when it should be Back-boured or Thoroughed-down and Harrowed level, then it's ready for the last Ploughing into broad Lands the Cross-way of the former, and fit for Harrowing in of Barley. But if at Candlemas, the Turneps are eaten off, then they often Hack the Land, and let it lye to sweeten till the first of March, when they Harrow it plain, and so let it remain till the middle of that Month, and then they Plough it a-cross and Harrow in Barley.

Others again at Albollantide or Christmas, will Plough it into four Thorough Stitches, which will much better sweeten the Land and kill the Weeds than broad Land Ploughing; this they let lye till Candlemas, when they bout it up, and at the first of March back-bout it down, Harrow it well, and is then ready to Sow a Fortnight after, by Plough-

ing a-cross.

These are certainly much the best Ways if Time will allow after the Turneps are eaten off; for broad Land Ploughing, in Winter or Spring especially

pecially, has been the Cause and Ruin of some Crops, it being only a turning the Ground topfey-turvy; the Twitch and Weeds are not fo foon killed, as when the Land is more laid open, for in this Way, as I take it, the Earth is but half exposed when Bouting or Hacking, does it at least three Parts in four, and keeps the Land dryer, and more to the Sun and Air.

But when the Turneps are eaten off late, and Opportunity won't admit of plurality of Ploughings, then they give it but one Ploughing in Broadlands, and Harrow in the Barley or Wheat; because the Sheeps Dung by a thin Ploughing, lies just under the Barley for it to Root into, and have the sudden Benefit thereof; this is reckoned a surer Way than two Broad-land Ploughings, by reafon this being often a wet Season, the Danger of a double Ploughing is, that if it should Rain after the first Ploughing, it will bake the Earth down and never be fine; but if a dry fine Time follows, then it is better than one, and the first Ploughing must be deeper than the second, to turn

up again the Sheeps Dung.

The Wheel-fallow Plough: Its strait Beam is made of Ash, and is eight Foot eight Inches in Length, four Inches Square at the Butt-end, and three Inches Diameter at the Fore-part or Roundend, has seven Holes of an Inch-bore each, at three Inches afunder, the forward Hole being within three Foot and three Inches at the End of the Beam: These are made for shifting a Teaming-pin of about eleven Inches long, as often as the Plough is required to go deep or shallow, by the help of two Iron long Links and one Iron round Collar, in all two Footten Inches long, that comes from the Bottom of the wooden Stock: Its winding ashen Staple is six Foot long, and fastened both to the Beam, and an Iron Mortaise

of the Sharr behind, about four Inches Diameter in the Middle, and serves the Ploughman with the help of a loose Staff of eight Foot long-to guide the Plough by: Its slopen ashen Sheaf is two Foot four Inches long, that is mortais'd into the Beam at one End, and fastened into the Mortaile of the Sharr at the other End with an Iron Pin: Its Iron pecked Sharr is four Foot three Inches long, and fourteen Inches broad, three Inches winding, and fixteen Inches behind distant from the Beam, and a Bridge for the Plough-staff to lye on, fastened with three wooden cross Pins: Its Standard Iron Pin is twenty Inches long and one Inch Diameter, shifted into three Holes in the upper part of the Stock as occasion requires to keep the End of the Beam steady, with the help of a Chain of fix fmall Iron Rings and a large one fixed to the Stock, thro' which and the two Wheels runs an Iron Spindle or Axel-tree of three Foot long, and an Inch Diameter: Its Iron wrung Landwheel is twenty Inches, and the thorough Wheel two Foot Diameter: Its Iron-forked Wheels are fastened to the Stock, and are fourteen Inches long and ten wide, to this is an Iron Mortaise joined of eleven Inches long, that the wooden Way of four Foot four Inches long is pinned to, at each End of which, are two Whipple-trees of two Foot fixteen Inches each, that the Horses draw by.

This is the strongest and largest Plough used by the Chiltern Farmer, is drawn by two, three, sour, sive, or six Horses, and imployed at Fallow and Stirree Times, &c. in Bouting, sour Thoroughing off broad Lands, Hacking or Combing, broad Ploughing, throwing down Stitches into broad Lands for Sowing of Oats. And is more useful in hard and stony Grounds, than either the Swing, Bobtail, or Foot Plough, because its Sharr being

fastened

fastened by two Mortaises, stands and works more firm than either of them.

The Creeper or Bobtail Plough differs in little or nothing from the Fallow Wheel-plough, but that its Sharr is only three Foot in Length, and but one Iron Mortaise that fixes it to the Sheath with two Iron Pins, besides a Hook that fastens it to the Beam; It's fore-part lying on the Stock of the Wheel-Carriage as the Fallow-plough docs. and its Staple four Foot four Inches long mortaifed into the end of the Beam, with a loofe Ploughstaff: Its Work is to plough up Stubbles, particularly in wet Weather, and is used at other times in wet Clays, Loams, or other cloggy Grounds; because its Sharr, not being fastened to a Staple behind, gives Room for the Earth to tumble off, that it does not hang on and load the Plough as it's apt to do in the long sharr'd fort. Some so affect this Plough, that they will make it their common one in Fallow, and other Scafons; but in very dry, hard Grounds, this Plough is not capable of making its way through with its fingle mortais'd Sharr, when the Fallow Plough can, whose Sharr has a double Mortaife.

The Lent Seed Plough, is a Wheel-plough, fomething leffer and narrower than the Fallowplough, and is chiefly used to plough the Wheat Stitch into a Stitch again, at the fame time that Beans or Peas are fown, or strained therein: I have known it also used to throw down the Stitch into broad Lands, for fowing of Wheat a fecond time the very next Season after the first, five of which fo ploughed made one broad Land; for the Conveniency of one broad-casting of the Seed, and for the better shooting off the Wets, for the narrower the broad Lands are, the more Thoroughs there will be to keep the Grain dry; on this one ploughing they harrow the Wheat in, and fometimes Kk fucfucceed very well; but as this is cross-cropping the Ground, I cannot commend it; however, the most common Way to plough these Stitches into broad Lands, is done with the Fallow Plough, where they are not very narrow. This Lent Seed Plough having its double mortais'd Sharr fastened to the Staple and Sheath, in the same manner of the Fallow and Wheat Seed-ploughs, is generally strong enough to make its way thro' the Stitches of hard Grounds.

The Wheat Seed-plough, is the least Wheelplough of all others, being the narrowest of any, for the sake of making a narrow Thorough, whereby it prevents the sweeping or driving of the Ground into the Wheat Stitch at the time of sow-

res Loom

ing.

The Swing-plough differs from the Foot-. plough, in that it has no Foot, and two fixed Handles, one being the Staple, and the other a Handle fastened to the broad Board, is something bigger, especially in the Beam: Its broad, flattish Sharr about eighteen Inches long, is fastened to, and put on a wooden Neck; but there are others that work in harder Grounds, whose Sharr is rounder and sharper, and has an Iron-plate put on the Bottom of the wooden Neck for its longer duration, which is fastened to the Sheath; the Sharr also is tuck'd up to the Beam by an Ironhook: This Plough has a Cock of Iron fixed at the end of its winding Beam, with five Notches, to which is joyned five or fix Iron-links, that are about eighteen Inches long in all, that again are fastened to an Iron-hook, in the middle of the way; and thereby made to rife or fall, as the way -hangs lower or higher to the two Ropes or Chains, that are held by the Ridger of the Cart-saddle, on the Till-horse: This Plough has no Teamingpin nor Holes, as the Wheel fort have, but its CoulCoulter is much the fame, has besides its broad Board, a narrow one on the Land-side, to keep the Dirt from making a Lodgment: It is mostly used in Middlesex, as their general Plough for sowing of Wheat, Barley, Peas, Beans, or Oats, in

fix or eight Thorough'd Lands.

The Foot-plough, is fo called from a Piece of Wood, or Iron made somewhat like our Foot, at the end of a Stick or Iron, about eighteen Inches long, that is fastened in a small Hole, near the end of the Plough-beam, which slides on, and keep it from entring the Ground, and is drawn by a fingle or double Row of Horses: Its Beam is about four Inches thick, crooked or winding, and eight Foot two Inches long; has no Holes nor Teaming-pin, Stock, nor Wheels; has one Staple fix'd into the End of the Beam, four Foot three Inches long, and is guided by this and a loofe Ploughstaff; its broad, flatrish Sharr is about eighteen Inches long, put on a wooden Neck, that is fastened to the Sheath; its Coulter in the usual Place; its broad Board two Foot four Inches long, and fixteen Inches behind, distant from the Ploughbeam; its Cock of five Notches, is fastened by an Iron-pin, within five Inches of the Beam's end, and the Foot in a Hole just by that; with this they do all manner of Ploughing-work in the Vale, for all forts of Grain that they fow.

The Newmarket, or flat sharr'd Plough. This is a new Plough, and lately sent for some Miles distance, by a Gentleman of Hertfordsbire, to plough or cut up his Ant-hills, or Mole-banks; it is made in the very same manner that our Harrow-slides are; whose Sides of Oak or Ash are three Foot long, six Inches thick, and three Foot wide; a little more forward than the Center, is an Iron, somewhat above two Foot long, sour Inches broad, and about sour Inches thick crooked, or winding in

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a circular Manner; this at each End comes under the Sides of the Plough, and keyed up, so that its flat Edge lies a-cross, almost even with the Ground; the fore End has two Staples fixed, that the Horses are fastened to, and draw in a single Row; the hind Part or Ends, have two Handles fixed, for the Plough-man to guide it by; and as it is drawn to a Mole-bank, he bears it up, which a little lowers the Sharr for cutting thro' the Bottom of the Bank, which it will gradually do, if it is not too big, nor the Moss too high: But in the Place where this was intended for Service, it would not answer; because the Banks were too large and too think, so that the Plough-man invented a Method accordingly; and that was, by fixing a Fin of Iron a Foot and a half long to the Foot-sharr, in the common Foot-plough on the off-fide, or on the same side the broad Board is; this did it esfeetually, by drawing it backwards and forwards, as they do on broad Lands; and after the Turfs of these Banks were put together in many Heaps, and in nine Months rotted, they foread them about, and then drew a Gate or Hurdle with Bushes, that dispersed them all over, to the great enriching, and thickning of the Ground.

In the Month of Fanuary last, 1732, a Plough was invented and first tried, that will perform just double the Work with the same Number of Horses, as the common Wheel or Foot-plough will, in broad Land and stitch Ploughings; in the same space of time, and with little or no more trouble to the Plough-man; and that only with what is fixed to one single Beam. If any Person wants to be surther informed in this particular, this Au-

thor is ready to give them Satisfaction.

But there is another fort of Foot-plough, that has an Iron Neck joyned to the Sharr, and fastened by an Iron Mortaise, to the Wooden Sheath,

with two Iron Pins like the Bob-tail Sharr: its Beam like the other, but something thicker: This of late is much used in the Chiltern Country, to plough in hard Grounds, such as Gravels, and other stony Sorts, with an Iron Wheel of about five Inches diameter fixed in the Foot, which is not fo foon stopped by the Stones, as the Iron or Wooden Foot alone would be: It is a lighter Plough for the Horses than the Wheel-plough, when the Ground is wet and heavy; and as the broad Boards of this is more crooked than that of the Wheel-plough, it will turn the Thoroughs into the broad Lands better than any of the Wheel fort; and is also often used by the Chiltern Farmer, to draw out at Wheat-feed time, when the Wheat-feed Plough follows and hents after: Thefe Iron-neck'd Foot-ploughs by some are used almost all the Fallow Scason, instead of the Wheel Fallow-plough, and are drawn commonly then with a double Row of Horses, fastened to Whipple Trees; but when it is used in hoeing of the Rows of Beans, The Till Horse they go in a fingle Row, thus: is fastened by two Trace Ropes to the Way that hangs by the middle to a Chain joyned to the Iron Cock; the next Fore-Horse to another wooden Way, that hangs between him and the Till Horse; but here is an Extra pair of Chains besides, that are fastened to the Ends of both these Ways, and used to rise and fall the End of the Plough-beam, by a back Rope tyed to them on each Side of the Till Horse, which keep up the Way, and canses the Plough to go deeper or shallower at pleasure, in the same manner as the Swing Plough does, but the other Horses are only fastened to one another in the common Method. The Wheel Footplough is also made, as to take out or put in at discretion.

The Kentish Plough, is a larger, heavier, and more clumfy Plough than any of the aforementioned fort, having its Wheels commonly as big as the forward Pair of a Chariot: It is very convenient to plough the Sides of Hills, because as they alter or shift their broad Board at every end or turning, they leave no Thorough or Henting,

but plough the Ground all one way.

The Trenching Plough, is either a Wheel or Foot-plough, and differs only in its bigness and strength, being sometimes drawn by eight, twelve, or more Horses, in making of Drains and Water Thoroughs; and also among Roots, after Wood has been stocked up: In the Vale they are frequently maintain'd at a Parish Charge for their common Service; and in the Chiltern, I have known this great Plough used to make a small River deeper in a dry time, by ploughing up its bottom several times, to lessen the Charge of digging.



CHAP. XXXIX.

The Nature and Improvement of Sowing,

THIS is another most useful Knowledge in the Farmer's Way, because it has often been the Occasion of making, and saving the marring of many Crops, which made a great Gentleman tell me, at my Bookseller's Shop in London, that he thought most of our miscarriage in Farming,

was owing to the too thick fowing of our Grain:
But I must here take leave to let him know, that
it is mine and other Farmers Sentiment, most of
our Failings in this respect is owing to our too
thin sowing; for as an old Quaker Farmer said
— I have lost a great deal in my time by sowing
thin, but I never yet suffered by sowing thick—
Yet it is certain they are both Extreams, and have
been the Cause of great Losses in Crops: Wherefore I will endeavour to shew the particular Misfortune of both Faults.

First then, by sowing thin, there is room given to the Weed to take its Rife, and make its Progress among the Grain, without interruption either of its Root or Branch Now all are fenfible that a Weed out-runs the Corn; because one has its Production naturally from the Earth, while the other is brought forward in some measure by the help of Art; and therefore has not wholly that Advantage in the Ground as the Weed has, which is the Occasion, why all Trees as well as Weeds thrive fastest where they have a spontaneous Growth . It is for this Reason, that Wheat and other Grain are fowed directly on a fine Tilth. where the Weed is at that time check'd or kill'd, that it may get the flart of their lateral and high Growth, by which it is enabled to keep back, choak, and vanquish the Weeds breeding and running up. It is also for this very Reason, that a right Farmer won't fow his Clover Seed amongst his Barley, till a Formight or three Weeks lasterwards, that the Grain may have an Opportunity of getting Dominion over the Grass; from this thin fowing often ariseth that grand Missortune of the Wild Oat and most other Weeds, that generally attack the vacant Interspaces of the Grain, and become almost sometimes a total De-Atuction to a whole Field of Corn; especially on Ground STOWS.

Ground newly broke up, that before had been a Lay of Grass or Wood; which by a thick sowing of the Grain are mostly hinder'd, for the Ground can but carry its Burthen; and if it has it not in Corn, it will in Weeds, which I think is a plain Demonstration, that thick sowing is the lesser Fault, altho' I am sensible of the main Objection to this Argument; which is, that by fowing thin, the Ear will be the bigger; and so it had need, confidering the Ground and Dreffing each distant Stalk takes up; but this is attended with smaller Kernels, and the great Risk of being choaked by Weeds, and more subject to Blights and Blasts; besides, when the Corn grows thin, it has not the Opportunity of being fo foon and fo well ripened, as if thicker; because the Ears are apt to bow and hang down, that the Sun cannot come to all their Parts; and then they are more exposed to the Violence of Winds and Rains, that often more cafily bend down their Stalks and Ears.

By consequence then, thick sowing must have the Advantage of the two Extreams; because it greatly prevents the Growth of those Weeds, whose Mischiess seldom are over at the Barn; but too often are known to infinuate themselves into a Growth in the Field, notwithstanding the Dunghill has been more than once turned: And first, By thus fowing the Corn thick, one Stalk becomes a Support to another, and fo the better withstands the furious Winds and Rains: Secondly, Hereby the Ear of the Grain is kept upright, and more expos'd to the Sun and Air's fruitious Influences, that ripen it fooner and kinder, by having Access to all its Parts: Thirdly, the Growth of Weeds is often absolutely hindered, by the plenary Furniture that the Ground enjoys from the Roots of the Grain: Fourthly, The Ear that

grows clear of Weeds, and has full upright Growth to the last, has generally a bigger Kernel than the thin sowed one has. And now I am come to the main Objection that can be offered against this Practice, and that is, that by the greater Quantity of Seed that is sown, the Crop becomes hopper, small ear'd, and will not yield like that large one, that has more room for its Growth.

Now to these Pro's and Con's I answer, that as no Extream can be good, it is the Farmer's Business to fall in with a Mediocrity, neither too thick nor too thin, for then he must be right, as to the Check of the Weed, and Growth of the Corn; and therefore I shall here set down the Quantity of each Seed that we generally sow for

Crops of Corn and Grafs.

Wheat that is fown in Tilths, are by all the judicious esteemed in the Chiltern, at two Bushels and a half on an Acre; but even here there is a difference, for two Bushels and a Peck at the beginning of September, is equal to two Bushels and a half a Month after, for the later the Spring the more should be the Seed; because it is more apt to die by the Cold and Wets, than the more forward fowed, that presently by the Clemency of the Weather, gets up to so great a Head, as to cover the Ground, to the keeping down the Growth of Weeds, and is also sometimes much devoured by the Rooks, Crows, and other Fowls. Then there is another difference in the Soils; particularly in the Gravelly ones, which are called dying Ground, from the many Stones that they abound with: In this, Numbers of the Grains are hindered coming out: Also by its binding Quality, so made by the heavy Rains falling presently after Sowing; and by the Poverty that usually affects this Earth: For all which, there is often an Allowance made by Sowing more Seed here, than on the rich loofe Loams

Loams, where sometimes two Bushels and a Peck is equal to two Bushels and three Pecks on a Gravel, but in case the Loams are very wet at the Time of Sowing, then there must be the more Seed allowed, because some part of it will be smothered and not able to come out of the Ground. Likewise in new broke up Grounds, there must be at least two Bushels and three Pecks, or three Bushels sowed on an Acre to prevent the Wild-oat, and allow for the Worms and Birds eating it, but in such Earth, a Crop of Cats in commonly first sown to tame its over-luxuriancy, and prepare it the next Year for sowing Wheat. And indeed, in all Ground where Wheat is only harrowed in on broad Land, there must the more Seed be sown for

In the Vale they commonly adjust their Chantity on an Acre to two Bushels and a Peck, as being sull enough for their rich Ground, that naturally causes it to gather and bunch beyond our Chiltren Land; for here they are free from the Cover of Stones, and more than we from the hazard or bashing-binding Rains, so that they never much sear their Corn's coming out of their clean, locie, hollow Earth, which they venture first to low all over with Seed, and then plough it in Now this is what we dare not do in our high parder Grounds, lest we bury it and lose our Coops; for with us a Man follows the Plough, and strains in the Wheat in Four-thorough-stitches that the Hlough first makes, and then covers again: But if we sow it on Broad-lands, then we commonly only harrow the Ground all over once in a Place, to prevent the Wheat's lodging in the Thoroughs, and immediately harrow it twice in a Place, back-wards and forwards.

Barley-ground is first harrowed once in a Place to hinder the Grain's getting into the Thoroughs. then it is fown by Broad-caffing all over the Ground, and directly harrowed both ways into the Earth. Some will fow one Cast, or half the Seed all over the Broad-lands before it is harrowed, as being a Security against a dry Summer, for then the Seed makes a deeper Lodgment between the Thoroughs; then they harrow it all over once in a Place; upon this they sow the other half, and harrow it in across twice in a place, and role it when it is get up three Inches long. The Quantity is generally allowed to be in Vale and Children, sour Bushels on an Acre, except when

it is liquored, and then but three.

Peas are fowed by firatining them in Thorough by Thorough, when they are once fown in Scitches, and directly harrowed well down: But if fowed in Broad-lands, fome only harrow them in. others will fow Half the Seed first all over the Ground, and plow them in as they do in the Vale. which as foon as done, will fow the other half over the fame, and harrow them twice in a place backward and forward; this is called half under Thorough, and half over; but in the Vale they first fow them all over and plough them in, and then harrow directly. The Quantity both here and there is three or four Bushels on one Acre, the thicker the better, that the Weeds may be kept down. But I have lowed the Blew and other Peas with great Success in Drills and Thoroughs in a fine Tilth, made first by the Plough at eighteen Inches or two Foot Diftance, and strain'd in by a Man's Hand, and covered by the Harrows over-thwart; thefe, when they are got about fix Inches high, must be hoed by Men, and after that, when they are a Foot long, the Earth maft be heed on each fide up to their Stalks, to kill the Weeds and fuccour their Roots against the Summer Droughes; thus by their distant Growth,

Growth, they will corn to a great degree and ripen early. The Quantity is not so much here, as in the other ways, for about two Bushels sow

an Acre after this manner.

Beans, are fowed in the Vale on their Wheat or Barley-stubbles, by first broad-casting the Seed with a Man's Handall over the Ground, and then ploughed in and harrowed. But in the Chiltern they are commonly fown on the Wheat-stitch, as it was left at Harvest, by a Man's following the Plough and straining them in, in four several Thoroughs that are made in the Stitch by the Peastitch-plough, which it also fills in, so that the Earth of one Thorough fills up another, and then the Stitch is harrowed down. The other Way in the Chiltern on a Barley Stubble, is first sowing the Beans all over the Ground as they do in the Vale, and ploughing them in with the Fallow-wheel-plough, and harrow them well after. Their Quantity is four Bushels on an Acre, unless drill'd in, or fet, by making Holes in the Ground with a Stick or Dibber, and then less serves.

Peas, are also sowed with Oats, which is called Bullimon, and indeed is commonly a very advantageous Way, as I have a great deal of Reason to write of, for this Summer I received a large Crop of both these, off a piece of Ground that used to deceive its Owner for several Years past; but here the Pea sheltered the Root of the Oat and nourish'd it, till it was able to support and keep up the Pea from falling down; so that both contributed to each other's Fertility, and is certainly a

fure and profitable Way. And so is

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Beans fowed with Peas; which is often done as a double Security in the Chiltern. For if the Peas (as they frequently do) fail, the Beans generally hit, and will become a good Crop in a proper Soil, by having the more room to Corn; and

and if both grow well, then the Bean will keep up the Pea, that it corns and ripens the better. They are fowed about four Bushels on an Acre, half Peas and half Beans, either on Stitch or broad Lands. Some have fown them amongst their Barley, but there is this Inconveniency in it, that the Barley is ripe before the Bean, which occasions fuch a Dampness in it, as to spoil its Sale to the Malster, tho' some will do it for another Reason. and that is, to keep the Barley from falling down. But the Vale Men never fow Peas amongst their Beans, because it hinders the Sheep from coming at the Weeds. Yet I have known a Vale-Man fow the Horn-grey Pea alone in April for a Trial. but then he had nothing but Blossom and Haulm for his Curiofity; for this Pea requires the earliest fowing of all others, tho' it is the latest ripe.

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CHAP. XL.

The Nature and Improvement of SEEDS.

THE Knowledge of good and bad Seeds, is of such Importance to the Farmer, that on the right Choice thereof depends the Success of After-crops; and is really very worthy of a Chapter being bestowed on its Subject, for the Prevention of others coming into that Missortune, that many have had reason to complain of for want of a due Information, how to distinguish the sound from the unsound; the proper from the improper. For by this means a Person is capacitated, not to selly altogether on a Salesman's Recommendation

of his own Seed, who is generally a Stranger to the Buyer, and that for these Reasons, First, The worfe Sort of them are sometimes tempted to make the most of their Goods as they call it, and put off their old decayed, or their miripe mowburn'd and damaged Seeds to the ignorant, who certainly are more in Number than the skilful and judicious, and are thereby expeled to the superiour Knowledge of the artful Seller. Secondly, Some again there are, who not being true Masters of their Bufiness, are not senfible of the partieud lar right Sorts themselves: An Instance of this happened but last Year. It was in a Shop to the Westward of Temple-Bar in London, where I ask'd the Master, which was the ripe and unripe part of fome Lucern-Seed that I was there about buying; he answered he knew the biggest was best, but was filent as to the other. Nor is this fo much to be wondered at, if we confider that the Beemer that furnishes them, has certainly a great Opportunity of having a Knowledge in the good and bad Sorts, because he is the Original Sower, Mower, Cleanfer, and Seller thereof. I shall distinguish them as follows, viz.

Lucern Seed. The purple or brown fort of this, is that which had its due Maturation in the Field, and an Escape from the heat and burning of the Mow: And is therefore the right true Seed, that ought always to be covered, and sowed by those who hope for successful Returns from sowing this Seed: This is truly that part which is best of all the three, and is the Medium of the

two Extreams.

The white or green fort, is the unripe part that missed of that Benefit in the Field which the purple had; for in the very Ear or Head of this Grass, as well as in Wheat and other Grains, this Seed has its several Aspects, Situations and Proporti-

ons of Bigness before it is cut down, and will shew their Differences accordingly after threshing and cleaning; which is also obvious in all Fruits and Seeds that can be seen with the Eye. And therefore as the Seeds-man said, the biggest is certain-ly the best of all Grain and Seed whatsoever; but then he did not; or would not know any other This white and green fort then, is Difference. that which had not its due Maturity and Proportion of Bigness, and by that means is not capacitated to be so sure of Growth as the purple; and if it does not take Root, it's likely to be diminutive, and fooner overcome by the Casualty of Worms, Gnats, Frosts and Wets, than the stron-

ger Root and Stalk is,

The reddish fort is the worst of all, tho'this might be as good as the best, when it was brought out of the Field, but was afterwards too much heated or burn'd in the Mow; either by the greenness or dampness of the Seed when it was brought out of the Field, or that it was moved in too. great a Quantity, or that it lay in the middle or thickest part of the Mow; for in these Cases it often acquires a reddish Colour, which is folely occation'd by Heat, and thereby commonly spoiled, for then the vital part of the Seed is so burnt, that the farinous Radicle becomes dead, which in good Seed, is the first Life of all After-growth, Wherefore when Lucern, Clover, and some other Seeds, have too much of these two latter forts amongst it, it is to be rejected as unfir to fow.

Wheat also will be redder ended than ordinary, when burnt or too much heated in the Mow; this is a degree there of sprouting at the End, which we call grow'd Corn; tho they are generally both occasion'd by too much wet or Moisture; and when it is sprouted, it makes Bread lumpish, like unto, Pudding. There is also another defec-

tive

tive fort, and that is called fmutty Wheat; not that I actually mean that Kernel, which is in part finutty already; but the Kernel that grows in the smutty Ear, and yet to the Eye seems sound: This is that which is reckoned to be a Breeder of Smut again; and therefore with the other two forts are to be rejected for Seed. The knowing part of the Farmers are now become so curious, that they every time change their Seed, as believing it to degenerate, if oftner fown on the same Soil than once: This makes a Neighbour of mine go yearly, a little before Michaelmas, to Ailesbury, where he meets a certain Man, who lives some Miles below that Place, and breaks up a piece of new Ground every Year; on which he fows pirky Wheat: Now all Seed is reckoned beft, off the Virgin Mould; and therefore this Man fells his Seed fooner, and for more than others. So likewise it is observed, that the Derby, and Warwicksbire Waggons, will carry Wheat from Dunstable, that comes off their chalky Grounds there, for to fow it in a contrary Soil, for its greater Improvement.

Barley, likewise shews it self red at each End, when it is mowburned, and is therefore justly rejected, both by Malster and Sower, as desective dead Seed and Grain, not sit to be used for making of Malt, nor in the Field; and when it is thus spoiled, the very Hens will often result to eat

it.

Oats, have fometimes their share of this Misfortune, as will appear by the Redness of their Ends.

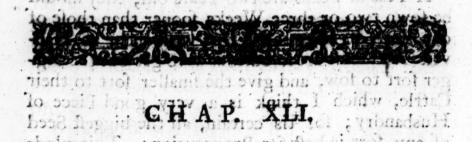
Beans, Peas, Thetches and Tills, are all of them subject to spoil, when they are too much Mow-burned; for then they will be reddish within, and without more or less, as they have in a greater or lesser degree received the Damage, and

are to be accounted bad Seed, not fit to be fown again; for if one of these are put into the Mouth, and bit the fide-way, they will eafily come in two, when the found one will not without a great deal of Violence. This made a Farmer, that I am acquainted with, fearch the Country for found Beans, that he gave three or four Shillings extraordinary a Load for, when most others that were inned Wetche Summer before, were fold so much cheaper, as being Mow-burned; but then he had the best Crop in his Part of the Country. When Beans are cut down too foon, they will shrivel and be the smaller, which some are tempted to do by their Leisure at Harvest; but then they take care to Wad them as foon as Mown, and put them into fingle small Parcels, to prevent their heating.

If Peas or Beans are two Years old, they should be sown two or three Weeks sooner than those of one Year, to be equally ripe with them at Harvest. And some are so curious as to get out the bigger fort to sow, and give the smaller fort to their Cattle, which I think is a very good Piece of Husbandry; for tis certain, all the biggest Seed of any fort is best for Propagation: This minds me of some Stalks that grew in Chedington Church-Field, in June 1727, that carried eighty and seventy-odd Pods on each, which I was at the counting of

Turner Seed. This sometimes consists of three or sour forts of Colours, viz. the Green or Yel-low, the Red and the Black. Altho, they all come off one Piece of Ground, and at the same time, and are oftentimes mix'd together in one Parcel; and therefore shall here explain their several Natures, viz. The Green or Yellow, is that which is impropel and commonly will appear afternsown, in showing the diese, but so went

of its due Maturity, will fail and come to nothing, or at most, to a small infignificant Turnep: The Red, is that which is ripe, but by putting the Seed together damp, or when dry, if a damp Place, whereby it heats; or that it lies in the middle and thickest Part of the Heap, and becomes hot and burns in a small degree, all, or part of the flowery Radicle, which is cripples and damages it, that it is in much the fame Condition at fowing, as the unripe Green or Yellow: But the Black is the true full ripe fort, and will endure keeping in a dry Place more than one of two Years. Now to prove the Goodhels of this, and all other Seeds; take a Pint of the belt, and Weigh against a Pint of the unripe, or burnt bad, and the heaviest will prove the goodness. on med



The Advantages and Difadvantages of Honses 1 dld, in your sparson ried eighty and it-

IN my first Book, I have wrote on this Saba Ject; but here I shall write after a different mariner, as the Transaction has fince occurred to Hiv Knowledge: I own I have drill'd Blew Peas into Thoroughs, made by the Plough in my Field. and receiv'd back a vant Crop by Man's Hocing ! but this is Horse-work, which certainly comes veral Natures, wie. The Oren crackers In my Travels, I faw an Operation in this last

Africie, performed by immercations Ploughman this

I shall particularly take Notice of, viz. on an Oat Stubble that Dung was laid on just before Christmas, when they ploughed it into broad Lands with the Wheel Fallow-plough, that tay till Candlemas, and then they harrowed it plain which as foon as done; with the narrow Wheat Seed Wheel-plough he made a Drill or strait Thorough, that a Man followed and strained Horsebeans into; then the Seeds-man stood still while the Plough-man covered the first Thorough as shallow as he could, by making another Thorough close to the first; then he proceeded in the like manner at fix Foot distance, and so on throughout the Field. After this, about the first of April, when the Beans were about eight or twelve Inches high, the Plough-man with his Team of four Hors fes in length (as they were the first time) went first with the Foot-plough near the middle, and turned up a Thorough then the Wheel Fallows plough with four Horses in length followed bim; and gathered and turned up another Thorough close from the Beans; then the Foot-plough went and turned up a Thorough from the next Rows and the Fallow-plough followed and turned up another chose from the Beans as before: This Ow peration made one entire four Thorough'd Stitch, that lay between two Rows of Beans, which continued in this Form till the fixth Day of Jame; and then he began again with both the same Ploughs; that harrowed down the Earth to the Roots of the Beans; the Foot-plough first, and the other next, in the contrary manner to the last Way: This then brought all the Land into a level again, exa copt a Menting, or large Thorough that was lost in the middle, between the Rows, which was done nothing more to till Harvest, when they reap d urh'into a coc the Beans. the ferent his mild that the roughghed it into broad

I finall marricularly take Norice of size. It was Remarks on the foregoing METHOD. DE TO mes, when they

TRST this enclosed Chiltern Field was an Oat Stubble, that had but one Ploughing at Christmas, which made it turn up at Candlemas very rough, when they fowed the Beans in Thoroughs on this clotty, stony, loamy, clay Ground, that was not fine enough for the Beans; because the furly stiffness of its great Pieces, would not matter and crumble at that time of Year by the power of Frosts, as theirs in the Vale will; for that fome of the Beans could not fo foon get out with their Heads, as others did, which gave the Weed an Opportunity to get the flart of many of the Beans. And when in June they threw down the four Thorough'd Bout or Stitch on each Side of the Beans, the Clots fell on some of their Stalks, and beat several down and bruis'd others, and some again fell thort; fo that the Rows had not, I verily believe, above half the Benefit of the Ploughings, as otherwise they might have had, if the Ground had been in a finer Tilth when it was fown, as it plainly appeared to me, when I walked by the Plough-man as he was at work.

A fecond Misfortune was, that the Seed was fown too thin; this gave another Opportunity to the Weeds to get the Dominion, which they did to a great Degree, and caused the Rows to return but a slender Crop: Now it was not only my Opinion, but also that of the Plough-man's (who acted according to his Orders) that the Ground should have been ploughed first up at Michaelmas into broad Lands, and hack'd a-cross at Christmas, then harrowed plain at Candlemas, that the Beans might be immediately fown in Drills; this would have brought the Earth into a good Tilth, and prevented the several Misfortunes that the rough-

ness of the Ground by only one ploughing was the Occasion of; for by the finencis of the Land and thick fowing of the Seed, the Weeds are certainly very much kept unders But the Seeds man here, could not fow the Beans thick enough in the Thorough, and keep up with the Plough, that went too fast for his doing this as he should have done; and therefore inflead of his flanding fill while the Beans were moulding up, he should have fown the Drill a second time, by straining them in before the Plough. Again, by the fineness of the Ground, when the Stitch comes to be thrown down on the Roots of the Beans, the Earth wift be easily drove on, and cover them in fuch a regular Order, and in all Places alike, that the Weeds will be smothered, and new ones preventfcoronings of the Sun's great Hears in-

This profitable Way, when thus rightly ordered, is of very confiderable. Advantage to the Owner; for the Ground being by the four Ploughings and one Harrowing, brought into a State of Fertility for Beans, is thereby got into a readiness for the Wheat Crop the following Michaelmas; which, if this had not been, must be dunged and plough'd, till a fine Tilth was got for Wheat: to that here is little or no more Charge, than if the Beans had not been fowed Decause this Horse hoeing brings the Fallow-ground into a readiness all the preceding Year, for the Wheat Grop to fueceed; and by fowing and looking after the Beans with good Husbandry, the Weeds may be kept under very well; nor does the Ground fuffer any thing from the Beans, by reason they are not of that Nature to peel or make hungry any Ground; but rather by their keeping of Weeds down, and conveying the nitrous Dews to the Roots of their Stalks, and the great Cover their Bodies and Heads make, the Earth is bettered by cleanness and fwcct--91cf

Sweetness; two Properties that are of the greatest Consequence to arable Ground: It is by these the Roots of the Beans are encouraged to run horizontally, which is the chief Persection of this new Way, because of the distance of their Rows, the Beans have full room enough to earry their Fibres at great distances from their Bodies, and enjoy the benefits of the Sun, Dews and Rains, which Beans sowed promisenously can't have in so large

fown the Drill a fecond time, by

a degree

-IDOW!

And this is further greatly improved by Moulding up their Roots, when the Plough in Yune throws down the fitten on both fides of the Beans; and then it is, that this new Cover and Addition of Mould does vast fervice in theltering and shading the Roots of the Beans from the too violent scorchings of the Sun's great Heats in June and Free, which otherwise might prove very pernicious to their Growth; and in case the Rains fall effer this time, then the nitrous fulphureous qualities of this now laid Earth will be washed in up. on the Bean-roots, and so become an actual dreffing, and supply the Place of Dungs and other Manures: Here is a benefit indeed, that is little thought of by the passant Observators, who carry wheir Eyes seldom much further, than to admind the strait Order and distance the Beans growing a same bangara-W

Another Convenience in this Practice is, that the Dolphin-fly or Black-bug, has not that opportunity here as in the Vale, of ruining a Crop by its venomous attacks, which are often fatal to whole Fields that are fown in the common way; for here is free access even to the minutest part of the Stalk-blossom or Bean-pod, with an application of Salt-water, Mudgel-hole-water, Ashes, foot, or Lime, Sc. that may be thought proper to be made me of as Antidores and Remedica to

pre-

prevent or destroy these Flies of Bugs with their small Eggs, that in some dry Scasons are laid or bred by them in great abundance, which in the end generally spoils most of the Crop.

Another confiderable advantage is here gain'd by fowing Beans in these single distant rows, and The room they afford the Owner, to that is; prevent and deftroy that worst Weed of all, called the Hairy-bindy or Helleweed, which will run along amongst the Stalks a quarter of a Mile together, and by its creeping quality with its tharp Pines, wounds the Stalks and Pods; and yes this thready Enemy is past finding out in its Original of Roots, which by many have been traced without fuccess; this I fay is here easily come at and elleck'd, if not defroyed in Embryo by the Overfeer, who is not here in a Labyrinth of confuled Place, as the great Grops in the Vale deferve the Name of totias a finale Row at fix E

Another Benefit is, that the Shoop may here be curned in, and be uncapable of hurting the Beans by their rub, which in the Vale they often do in quest of their weedy Food, and which they are there obliged to fuffer, for the fake of delie vering their Crops from the Hairy-weed and others, that the Sheep by going amongst, often break and hinder the Progress of; yet notwithstanding all their endeavours to the contrary, this Hell-weed formetimes gets Matter and spoils the Beans, which here they are fure to be delivered from. 'Tis therefore that thefe feveral Advantages artie from this Horizshocing Practice, wise First, The getting the Ground into an early and

Secondly, The Fallow-ground is employed and the third Year got into a profitable Gondinon, that otherwise would have had nothing growing on the fadre,

Thirdly,

Thirdly, The Ground is improved by the Beans shade and shelter, and from the Produce of Dungs made by their Stalks and Roots.

Fourthly, The Beans are greatly nourished by

Dolphin-fly. It broths well moon of the weeds and

Sinthly, The Sheep may have a free access word

This way from beginning to ending may be performed by the Foot-plough entirely with a piece of Iron fix'd at the end of the Beam containing five Notches, that is called a Cock, to this the way is fastened, that the Horse is to draw by, and may by shifting it, make the Plough work nearer or surther off as occasion requires.

I have known two Rows of Beans fowed almost close together, and at eight Foot distance two
more; but it has been found not to answer so
well as a single Row at six Foot distance, because
the double Rows were apt to heat each other by
their close standing, and gave the Weed more
room to come up between them, and also hindred
the Mould from coming to all the sides of their
Roots; which a single one has the full freedom of
enjoying.

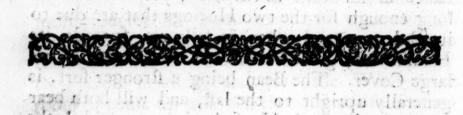
there, that the Sheep by going and ghis often break a grisod-short of especial and the Difadvantages for Horfelboeing.

HE main Objections against this Practice of our Farmers are English That here are five whole Ploughings and partiof a fixth incumbent on this Work, before a Croppost Wheat can be fet on the Ground, which are two or three extraordinary. Secondly, The Earth can't be so true ly got into a Tilth when the Beans are on, as if it had been a clear Fallow, by meason there is not ploughing the Gross-way of the Field, which is stack

the best method to make Land fine. Thirdly, By the early laying on the Dung, the Weather and Ground has an opportunity of exhausting and expending its goodness, before the Wheat can have all its due Nourishment from it.

There have been several Attempts I understand made of late, to get great Crops of Wheat and Artificial Grafs, by fowing their Seeds in Drills; but as I never faw the Operation, I can only write on it as the Rationale of it appears to me st By fowing any thing in Drills, is meant a vacant: piece of Ground lett between them, in order to hoe the upper Earth thereof to the Rows of Grain or Grafs: This I own is a good Method for Peas and Beans, because both of them have a strong Stalk; the Pea, though not of fo great a Substance in its Stalk as the Bean, yet will be erect long enough for the two Hoeings that are due to its Culture; and when it falls and foreads, its Hadin does great Service to the Ground by its large Cover. The Bean being a stronger fort, is generally upright to the last, and will both bear Man's hoeing and Horse-hoeing, provided the Ground is fine; but Wheat, that is a more weaker Stalk than either of them, I cannot find out how it can withstand the Earth's being turned upon them with the Plough, without being beat down or bruised; and much more the Stalks or Blades of the weaker Grass. But if only Man's hocing is allowed of, I cannot but think the Rows of Wheat are more exposed to the Violence of Winds, Rains, Hails, and Blights by their distant growing, than if they were close together, for then one supports and keeps up the Head of another to the Sun and Air, and thereby are sooner and better ripened in all the Parts of their Head; while that that lolls, falls down and forcads, fuffers many ways for want of that Assistance. I suppose one Reason that

that may be affigned for such Management, is, that half the Ground being unemployed, is ready for the like Attempt the next Year, in that or other Grain: But in my humble Opinion, this is an Argument of no great Force, fince a Fallow better Supplies this Conveniency for Wheat; a thick Crop of which in the common way will, like many others, kill the Weeds, keep the Ground hollow, and prepare it for Beans, Peas, or Oats the following Season; which makes me at a loss to account for the Profit of Drilling either Wheat or Grass; since that way not only exposes them to feveral Damages more than the common Methods. but also brings on a Charge of more Ploughings, or seven or ten Shillings per Acre for Man's hoeing. rate: the Pear moved and of the recent



Scale that call and call and a day the

The Improvement of the Turner. It dies

Man's hooing and Horfe-horing, provided this

TURNEP is a Root that was not known to be propagated in these Parts in the common Fields, till about sixty Years ago; and their great Usefulness has caused many Disputes as to the Tything of them: If they are cat off with Store-Sheep, there is none due; but if Sheep are fatted on them, the Tyth must be paid either in Kind or Money. Hertfordsbire is a Country where generally more grow than in any other, and as it is certain, every thing must pay its Decimation that

that has immediate valuable Produce from the Earth, either in one fort of Consideration or other; so this, although disputable in some Places some Years since, is now, as far as I can find, free-

ly paid almost every-where.

In this Country they carry the Bell from all others, by being preferr'd at London for their furpassing Sweetness, that is owing I presume to our light Soils, which we dress chiefly by Sheep-folding and Soot; this fort of Dreffing is more natural and wholesome than the many sorts of noxious Dungs, that they make use of for about fifteen Miles round London, for it is certain this, and all other Plants, partake in some degree of the Manure that is mix'd with the Ground; I will not fay they excel by any Benefit from our Air beyond others, as the Animal is faid to do, but leave this Point for the Decision of a more learned Pen; however, as this most valuable Root is now univerfally become Food for Man and Beaft, I shall here be more particular in its Culture, than otherwise I would, viz.

There are feveral forts which I shall here pass by, as being mentioned in my first Book, that call for one and the same Management: For the early Crop we fow in May, by getting the Ground ploughed up in Winter, which with one or two more afterwards, will become a fine Tilth in that Month; then take Seed of a Year old that is well cured, which is better than the newest Sort, because it is something longer coming up, and therefore takes the stronger Root: Of this Seed, one Pound will fow an Acre, but I would advise ever ry one not to fow less than two; nay, the furest way of all is to throw three Pound on an Acre, for, then, fays the Farmer, there is enough for the Fly, Slug, and us too; and the hoeing much of a Price, being five Shillings an Acre; and for this,

an honest Hoer in the Neighbourhood, will go over the Crop a second time some Days after, and remedy what he miss'd the first time; for let them be ever so careful the first, they will find the fee cond time furnish Matter enough to employ their Hoes. The next fowing is commonly a Fortnight before or after Midsummer; and if that misses, then a third ploughing and fowing may be ventured on as foon as can be done, which fometimes fucceed when the two former miss; for it has been found in the Declination of the Summer, that the Fly, or Slug, is not so busy as at other times: Now it is certain, all Ground that is dreffed, has abundantly the greater Chance of a Crop of Turneps, than that which is not; because the Manure will push on the Growth of the Turnep so fast, as to make it often out-run the Bite of the Slug and Fly; and when the Turnep has made its third or rough Leaf, neither of them can so easily cripple its Growth.

This leads me to make fome Observations on these two Insects, which perhaps were never yet taken notice of by any Author. Several Farmers have hitherto contended, whether the Turnep is destroyed by the Slug or Fly, and if but three in Company, feldom two of them are of one Opinion; one affirming the Fly does all the Mischief, another the Slug, and others both: Now this Slug is a small whitish Insect, about an Inch or more long, of the Snail Tribe, but has no Shell; is bread in the Garden and Field in the Ground, by small Eggs, lies all the Year in the Earth, and does his Mischief (Thief-like) in the Night, and is certainly one of the greatest Enemies to the . Turnep, and many other Vegetables; several little Holes may be perceived in the Ground under a young Turnep, through which they make their Paffage into their Cells, The

The Fly has a small black Body, little bigger than a large Flea, skips and flies from one Turnep to another in the Day time, and lies at Night under their Leaf; so that these two Ravagers do their Mischies alternately, and are both concerned in the young Turnep's Destruction, as well as the Caterpillar, that is a third Destroyer, and will sometimes with the other two, seize on, and greatly spoil a whole Field, by gnawing off the Leaves clean to the Stalk: Besides these, the Sun now and then by its parching Heats overcomes their first tender Sprout, and destroys whole Crops in

their Infancy.

To prevent therefore, and cure these Missortunes, I shall propose to do it several ways: And first, By Lime, that must lie, and as soon as slackt, sown over the Ground, to the Quantity of twenty, thirty, or forty Bushels on an Acre; immediately after this, the Turnep Seed must be fown, and both harrowed in together, Secondly, By Soot, about fifteen Bushels on an Acre, sown on the Turneps as foon as they appear above Ground; this by its bitter Taste, preserves them while young, from the Thief in a great Measure; and by its Sulphurous Saline Nature kills and drives away both Slug, Fly, and Caterpillar; and fo enriches the Ground by these two Qualities, as to make the Turneps grow very swiftly to a large Body, and by the time they are in Perfection, they are as sweet as others. Thirdly, By Sheepfolding; this way is generally found to answer, by penning Sheep on the Ground before it is fown with Turneps, who by treading in their own Dung and Stale, discourage and keep under the breeding of the Slug, Fly, and Caterpillar; and chis more especially when the Seed is folded on as foon as fown, which many do, and for fome time after; and then they are not under much Approhenlion '

hension of the Turnep's Miscarriage; because neither Worm, Slug, Fly, nor Caterpillar will meddle with their ill-tasted Leaf; this also causes the Turnep to grow so quick and great, that in a little time the Leaf will shade its Root against the fcorching Sun; and the Ground by the hard treading of the Sheep, will be so closed, as to retain its Moisture longer than ordinary. And lastly, I come to declare one of the finest Secrets that ever was printed of this kind, for its great Efficacy, and (I hope in time) for Cheapness, by which I doubt not but many thousand Acres of Turneps will be preserved from these Infects, which otherwife would be destroyed by them; and thereby fave the great Expence of one, and fometimes two, and three Ploughings extraordinary, besides the loss of time, caused often by the first, second, and third Crops being eat up by one or more of these Destroyers; and also for the great Conveniency that attends the Dreffing or Preservative, as being to be had in any part of Great Britain, when Lime, Soot, Dungs, nor Ashes can't be got.

When then the Turneps begin to appear all over the Field, or piece of Ground, which will be sooner or later, as the Ground is more or less in a Tilth and Heart, and the Weather moist and dry: Then sow three or sive Bushels of common Salt over an Acre broad-cast, in the same manner as you sow Lime, Soot, or Ashes, by throwing it extensively with the Hand; but if Salt was very cheap, eight Bushels on an Acre would do better, because it not only kills the Insect, but is indeed the best of Dressing for the Crop of Turneps, and enriches the Ground for the following Crop of Wheat or Barley; for no Insect can here reside, where Salt is the Medium justly regulated between the Air and the Earth; and it is here the

Infect generally commits its Rapine, which at

first is on the Leaf, and then the Stem.

When Turnep-Ground is got into a fine Tilth, it is a good way not to harrow and fow immediately, but let it lie a Week after it is ploughed, and then harrow and fow; because the Fly is apt to follow with the Dust, and make its Lodgement.

fores of the month and oreas I lies, that with the



CHAP. XLIII.

The Nature, and Improvement of Common

round, and eat the Tade in two within the CALT is known to be the greatest Conservator of all Bodies, that it is united to, of any other, and confequently the most potent Enemy to all Infects and Putrefaction; 'Tis this Power that prefers it to every thing elfe for the Farmer's Use, when employed in a judicious manner; for this, like the greatest Cordial, will become rather a Poison than an Antidote, if applied to Excess, as has been frequently experienc'd in Chamberlye, which, tho a natural Liquid, is the nearest of any to common Salt in its corroding Quality: This I have dreffed my Wheat and Grafs Ground with, but in such a Quantity, that it might do good and not harm; and that was, by a Man's walking with a Garden Pot of it, and pouring it through the streaming Holes of the Spout Head, which in good Ground, is at once a sufficient Dresthat

fing for a Wheat Crop, if laid on in February, March or April: But if it is immoderately used, then it will cause both Corn and Grass to turn yellow and burn up. This hot Acid Salt, is not only a Nourisher and Fertilizer of Grain and Grafe, but also will at the fame time wound and kill all manner of Worms, Stugs, Grubs, Caterpillars, Snails, &c. and will defy and prevent both them, and all the feveral forts of the small and great Flies, that with the rest lie in and on the Ground, and about the many Vegetables, and do their Mischies Night and Day to the young Turnep, Peas, Corn, Grass, Bloffom and Fruit: This minds me of an Obfervation that was publick to our Neighbourhood, by the small red Worms eating up and destroying several Acres of Wheat, that were harrowed into Clover Ground on one Ploughing; where these Infects fo multiplied by the Earth's resting two Years under this Grass, that they presently attack'd the fown Wheat as foon as it came out of the Ground, and eat the Blade in two within the Earth, which brought on fuch a Damage to the Parmer, that he loft most of his Crop, notwithstanding he sooted it all over; this he did about Condlemas, that proved too late; and if he had done it fooner, it might perhaps have killed the Worms, or at least made it get lower into the Earth; But then this Soot was liable to be washin away too foon, for the Good of the After-Crops Yet in such a Case, there was a Nocossty to kill or wound the Worm; said therefore if he had fown all over it, that more powerful Antidoto Salt, in a half Quantity at first, and the other half at Spring, I can't but suppose it would have proww ed effectual to the faving and the roving out betting with a Garden lot of it, and pouring or There have also many Crops of Peas been spoids

ed by the Worm, Slug, Grub, Fly, Caterpillar,

that

that lie about their Heads and Roots, and ear them up: A fad Instance of this happen'd at Pasten-End, to a Farmer that had fix Acres of Ground sown with Peas on broad Lands, that were near all devour'd by some of these Insects a for at Harvest he carry'd off only half a Waggon Load in all; so likewise will the Grub and others destroy great Quantities of natural Grass, by bitsing off the Roots or Blades.

Now these several Cases I have mentioned, are to shew the efficacious Nature of Salt-Dressing, which is the greatest Cure of all others, for Ground already insested with Worms, Slugs, and the other Insects, and for preventing their Settlements amongst the Turneps, Grain, Grass, So. Nor could it ever yet be discovered, as I know of, that any Insect can live in a Body of Salt, by reason their tender parts cannot suffer the corroding Quality, and pinous Nature of this acid Antidots.

Salt, though fixed, is in all Vegerables whatfoever, from the Oak to the Shrub, and is the visal Propagator of all their Growths, as is plainty discovered from the fertilizing Effects of their Ashes, that are thrown over Grass and Corn Grounds; this may also be more plainly seen, if we get a Lye, or Lee from the Ashes of Wood or any other rooted thing, and boil it till a Sediment of Salt remains at bottom; fo likewise do all Earths abound in some degree with a fruitions Salt, as may be proved from the great Quantities of Salt-petre that have been extracted from covered Grounds by the help of Water; and it is for this Reason that we burn our Loams, Glays, and Turks to obtain their Affics; which have been found to be a most excellent Dressing for any fort of Garden or Field Ware. But I med commit

Common Salt is of a far more potent Nature, than Ashes, Lime or Soot, and like them will canse all Crops of Grass and Corn to grow all the Winter, when others that want this Help are cut off, chill'd, and kill'd by the Power of Frosts, Wets and Winds. How greatly then does this noble Manure help the Farmer to Crops of Corn and Grass beyond all others, as to the Quantity, Quality and Cheapness of it, when it was at two Shillings per Bushel, as it happened to be this last Year, during the Exemption of the Duty; because it answered the three great Ends of chilling or wounding the Infect, preventing the fatal Etfects of Colds, and at the fame time, helps both Grass and Corn to grow thick and fast; but this is not all for word

Woodland is mightily improved by this, becanse the hot, dry and cutting quality of this common Salt, not only causes a quick Growth to the Wood by encreasing in it the vegetable Salt, but at the same time ruins the Breed of Snails, Worms and Grubs, that often hie at the Roots and about the Trees, and prey on their young Fibres, Leaves, Bloffom and Fruit; as we often discover at the Felling and Stocking up of Trees. So also

Fruit-Trees and all manner of Garden-ware are greatly affifted by this masculine droffing Common Salt, either scattered on the Surface, that the Rains may gradually wash it upon their Roots, or elfe by a Lye or Brine made thereof and sprinkled on the same; either way will cause a swift Growth to the Fruit Tree, if not in too large a Quantity, and at the same time deliver it from the Annoyance of all Infects that may hurt and damage it.

Here then I shall endeavour by the nearest Estimate, that I and our Farmers can make, to shew andmenta)

by my Family, and such a one, that consists of a Wife, six Children, a Plough-man, Plough-boy, Tasker, and Maid Servant, viz.

Spalamprion each Day's Grain talous as paster to	Tan A
SALT for three Bacon Hogs, each 3 1 2 0 up half a Bushel each. B. P. Q. B. B. P. Q. B. B. B. B. P. Q. B. B. B. B. B. B. P. Q. B.	ながれる
Salt for three Pickle Porkers, weighing } twenty Stone each, that take up a } 0 3 3 Peck and a Pottle a piece.	
Salt for our Beef, a Quart each Week 3 1 2 2	
Salt for our Table and Kitchen Use, at 3 1 2 2	90
that are constantly kept throughout the Year, allowing twenty four Pound 1 2 2	
at the Market, a Quart a Week.	
Salt for Brining Twenty Acres of 3	

The Article of brining Wheat, which is now commonly done throughout the Kingdom to prevent the Smut, I am willing to explain a little! In the first place we put about three Pecks of Salt into so much Water as will cause an Egg to swim; in this we imbibe two Bushels and a halt of Wheat we have the proposed of 20 to add the two welves.

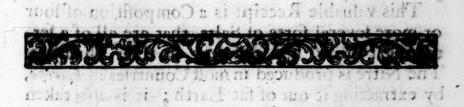
Loui in @ -- latoTriner as a Dreffing for the Land,

efthe hand Porcs, that it may be

twelve Hours, for fowing an Acre in one Day, the nexe Day we do the like, and fo on till all our Ground is fowed; but every time there is a Renewal of Water and Salt allowed to supply the Consumption each Day's Grain takes up. Also if the fix Cows Butter was all the Year falted and potted down as they do in Suffolk, Cambridgesbire, and many others, the Toral would be more; fo that I believe, I am not extravagant in any of the aforesaid Computations; and then the Tenant is obliged of Necessity to pay above thirty Shillings a Year, at three Shillings and four Pence per Buthel for Duty on Salt, which is a heavy Article for a fifty Pound per Year Farmer, and others in Proportion, to pay, who indeed are reckoned to live the hardiest, and carefullest of any of the King's Subjects. And therefore, it is humbly hoped our Legislators will take this into their Conlideration, and be pleased to release the Tenant of this burthensome Tax, that he may the better be enabled to pay his Rent, and dress his Land to the greater Encrease of Corn, Grafs, Beafts, &c. that will furely augment the publick Revenue, by the Duties that will arise from their plenary Productions.

Or if it is not thought proper to discharge this Impost; that they will permit an eighth or teath part of Earth to be mixed with Salt, before it can arrive at any of the British Ports, that it may be bought by the Farmer as a Dressing for his Land, free from any Suspicion of Fraud that can be used to appropriate it to another Use: And/in-granting this Exemption of Duty to this, it will no ways lessen the Salt Fund; (for I cannot suppose any Farmer will consume Salt as a Dressing while it. Tax is on it) so that by this, the Country will be indulged with a most convenient Manure at a cheap Price; and the other Funds consequently enhanced.

of; for the more Corn and Grass there is, the more Malt will be made, and Cattle bred and fed, which must encrease the Duties on Malt, Liquors, Leather, Tallow, and Salt.



A Receipt for the Steeping of Wheat.

UT a Tap Wips, and Brais Cock or Tap into a Tub, then put in two Bushels and & Peck of Seed Wheat, on this pour on one Pail full of hot Water, in which two Pound of Nitre or Sale Petre have been dissolved; then throw on a Pail of Water wherein a Peck of Stone Little has been quenched; directly after this, put in as much Mudgel-hole Water as will fwim four of the Inches on the Top of the Grain; in this Grain diffolve two Quarts of common Sale, and let the Wheat fosk in this Liquer, from fix in the Evening to fix of the Clock in the Morning, if you are in hafte; or if you have more time, it will be rather better if you put it in one Evening, and take it out the next, and let it lie all Night on the Ground to dry against the next Morning, when flack'd powdered Stone Lime that be by degrees Afted on and mixed with the Wheat, and then it is he to low directly. But our usual way is to his the Grain very well about in the Tub, just before we take it but, that the light Kernels may fwim DEE

on the Top, and with the Seeds of Weeds (if any) be skimm'd off; and what Liquor is left, may be alike strengthened again, with a proportionable Allowance of the same Ingredients. Thus an Acre of Ground may be every way sowed thick conough with two Bushels and a Peck of this pre-

pared Seed.

This valuable Receipt is a Composition of four or more several forts of Salts, that are all of a fertilizing Nature, but different in their Qualities. The Nitre is produced in most Countries in Europe, by extracting it out of fat Earth; it is also taken from the outsides of Walls and Rocks, but now most of it is brought from the East Indies and Africa; fome have thought it of a hot, others of a cold Nature; in my Opinion, it has not right to the former Character; because when I have used it fingly, I could not find that the Grain steep'd in it came up sooner, than that sowed naked and unprepared: It is abundantly impregnated with the Spirit of the Earth and Air, being a fixed Volatile, nitrous, aerial Salt, bitterish and pungent in Taile: If it is fixed on a red-hot Tile or Stone, it will all fly away, if it is pure; but if any thing remain it is common Salt, and furely adulterated. This noble Salt is sprope for this Intention, as being the capital Ingredient known by Man, for the Multiplication of all forts of Grain both in Field and Garden, and even Grafs, the Roots of Trees, and all other Vegetables whatfoever, may be prodigiously encreased by its Application, if used in a proper manner; and therefore I have added Lime Water, which is of a hot drying Nature, and will thereby affift the cooler part of the Nitre with its alkaline Salt, to the forwarding the Growth of Grain. The common Salt also is incorporated as a Promoter of the Grain's Improvement, by its hot, drying and therp Quality; 200

and helps by its great Acidity, not only to aflift the Kernel's germination, but to keep off Worms, Grubs, and Spails from gnawing it, and its Roots and Shoots. The Mudgel-hole Water, as it is the Drain of the Dunghil, is undoubtedly enrich'd with the Quintessence of the Dungs, and Stales of Horses and other Cattle; the Stales of which consequently push on the Growth of all Grain that is fleep'd therein. As to the powdered Lime being mixed at last with the Wheat, it has two Ends or Properties belonging to it; one is, to dry the Seed, and render it fit for fowing out of the Hand; the other is, to promote the Vegetation of the Grain, and defend it against Injuries, by Wets, Frosts, and Insects. This Mixture may be done in a quarter of an Hour, by turning the Seed with the Shovel, and fifting fome Lime on it as it is working. The Salt-petre will likewise be dissolved in hot Water about that time, and the Liquor drawn from the Wheat in much the same space,

The great Profit and Conveniency then of this Steeping of the Grain, is manifested in its curing and preventing Smut, sertilizing and causing the Seed to branch into many Stalks, forcing it up almost at once, bringing it forward for early reaping, and, for ought I know, makes the Crop of Grain more spirituous, by impregnating its Farina with a more vital Quality, than otherwise it would have; for it's plain, that all Vegetables most certainly partake of the Nature of the Earth, Dresling and Manure, that accompanies its Seeds or Roots, and become better or worse by their several Juices and Tinctures, as they are more of less healthful and fructuous: It is therefore I infer, that Wheat, Barley or other Grain, so steeped in this Liquor, may possibly be more enriched, than it sown in the common way, by the Spirits

Thy into broad Lands, and harrowed in three Balliels

rit of the Nitre and other Salts, to the great Imis

provement of both Bread and Beer.

Barley and Oats, &c. may be also thus steep'd to a great Improvement; but as most other Grain, besides Wheat, Barley and Rye, are hardy enough to grow of themselves, without imbibling any Liquor, or help of Manures; it is unnecessary to bestow any Charge, Time, or Trouble on them; so that I shall here but mention, that Barley is to be steep'd in the very same Liquor, and after the same Method, as the Wheat is, only that its Quantity must be three Bushels and an half put into the Tub at once, to be sowed each Day on one Acre; and the Rye after the like manner, and

in the same Quantity as the Wheat.

"Tis obvious of late, the Improvements of the Garden are brought to fuch Perfection, that even the Peach, Apricot, and many other Fruits, are now enjoy'd in the Months of May and June, that could not formerly be had till the utual time of August and September, and that as good and natueal as those that ripened late; so also are the Pine-Apples, and many other Exoticks now naturalized to our Clime, that heretofore were thought impracticable, and that even in some Parts of the North; as are many of the Grapes by the help of Fine Walls, and the fine Melons by high Planting, and artificial warm Affiftance; this Confideration brought me under a Propentity of finding out an Improvement in the Field, that might in fome meafure answer in the forwarding of Grain, as believing it not only of valt Service in Hertfordfbire in late fowings of Corn, but would be a means for the Northern Counties of Great Britain to enjoy Wheat, Rye and Barley, where they never could obtain it before; and therefore this Winter, 1722, I ploughed up an Acre of Clover Lay into broad Lands, and harrowed in three. Bushels

Bushels of Wheat Seed, half of which I prepared after a Method, I hope will answer my Expectation; the other half I fowed in the common way; I also managed one half of the Ground accordingly, and the other I did nothing to: This Expo riment I have now under Trial, and was invented by me, in order to find out a way to prevent Wheat, Barley, and Rye suffering by Wets and Frosts, causing them to overtake and be as forward at Harvest, as that sowed at the usual times; and if I can bring this to bear, then may a Crop of Turneps be got, belides a Crop of Wheat, the same Year to the great enriching of the Ground, lessening the Charge of Dressings, and to the Benefit of the Kingdom in general. And if it succeeds, and I can meet with fuitable Encouragement, I shall willingly communicate it to the World. ficial Cover, that seeps it as in a Storchoule, that

ic may in a more pleasery manager administer its terthese Reasons, Art was invented and imployed in

the Harth's behalf, how it might be beit allyied,

and that Affilivix ported it Sch a manner as may be mod conducted to answer this great End and how the mand how the manufacture of the manufacture of the manufacture and the manufacture of Nonrithment,

ANURES to the Earth are in some der grees as Food to Animals, that cannot perform their constant work, unless Nature is closely supplied with frequent Recruits of Subsistence; so in the Earth, neither Corn, Grass, nor many other Vegetables can be obtained in a prolifick Manner, without these auxiliary helps, that its Vuracious Nature aggestitously calls for; for Ay other Quadrup dis, as may be oblerved from

as they exhaust, the other feeds and supplies, or else the tone of the Ground's strength will foon be debilitated, expended, and only produce its Original destinated Weeds: Nor will Manures alone fusice but as part of that Assistance which our Mother Earth requires, because Rains also are to her as necessary; but thefe are only two, amongst the several others that contribute to her Nourishment, for her chief Promoter is the Sun, whose benign Influences must come at her Surface, or else Dearths and Famine confequently enfue; tis this most glorious Body of Heat that attracts her Crudities, and causes her to perspire them away in Fogs, Vapours, and other Exhalations, that also are again return'd in celestial Dews and purifying Airs! The Spirit or Salt of the Earth is likewife replenished by the nitrous Snows and their beneficial Cover, that keeps it as in a Storehouse, that it may in a more plenary manner administer its fertilizing Properties to all Corn, Grass, Wood, and all other Vegetables that grow therein; and for these Reasons, Art was invented and imployed in the Earth's behalf, how it might be best affisted, and that Assistance repeated in such a manner as may be most conducive to answer this great End and Purpose: And first, I must premise that the Earth is like the Animal Occonomy, affects, and more chearfully receives variety of Nourishment, than if clogged and glutted with one repeated or few forts of Dreffings, but of this I shall by and by speak further, which brings me to a particular account of their diffinct Species, viz.

Horse-Dung. As it is the Excrement of a hot Creature, it is undoubtedly furnished in a plenary manner with the Salts of Corn, Grass, Hay, and Straw, that by them are digested, and loaded with more of their Particles, than from the Bodies of any other Quadrupedes, as may be observed from

their

their Dungs and Litter, which when heaped together in a Quantity, doe there ferment, and be-Shells of Eggs in a Day's time, if put in Vinegar and buried therein; hence it is that this Dung becomes rotten, and then by its intense Heat and Putrefaction, often produces the many Snakes, that are more plentifully bred in Middlesex, by the greater Quantities of this Dung that are there, made beyond any other County in England: And 'tis for this reason, that all rotted Horse-dungs. are put on sward Grounds, especially at Michaelmas, that the Winter Rains may wash their saline fulphureous Qualities into the Earth, against the succeeding Summer; for if it was laid on in March , or April, and a dry time follows, it would then consequently burn up and destroy the Grass, instead of bringing forward a great Burthen: This Hazard likewise attends Horse-dung when laid on the top of Barley, and therefore is generally ploughed in the last time, that it may better re-, ceive the Wets, and not be fo foon dried away: But where the short Dung of the Stable is saved under Cover that the Rains cannot wash away its, Salts, then it has done very well alone, when thrown over the new fowed Grain of Barley, Wheat, or Rye, but better if mixed with Ashes, Malt-duft, Rabbits, Hens, or Pigeons-dungs; or if Cow-dung is incorporated with it in an Outhouse, it will be very efficacious when they are rotted into a fineness and harrowed in with any of those Grains. This short Horse-dung being the fostest and richest part of the Dung-hil, the great Rains by their several Bashings have more power to wash away its Virtue to the Owner's great loss, when exposed to the Weather; but when it is by Time and Cover thus rotted, either by it felf or P p 2 mixed. -DECKY)

mixed, it certainly is a most excellent Drefling to put on Wheat after it is harrowed in upon a Clover-lay, or upon any other broad Lands, wherein Whear, Barley, or Ryc is fowed, because by its being in a short pulveriz'd State, it is the easier wash'd in by the Winter and Summer Rains that follow: It is this rich Dung and its Litter, that will do great Service when ploughed into wet, cold, swampey Grounds, for here it will not only dry the Earth by drinking up its Moisture, but at the fame time will heat its Surface and promote the Growth of all Grain and Grass that may be fowed therein; so likewise upon mostly wentish Meadows. This Horse-dung, if laid on as soon as the Grass is moved in May or June, will prove its goodness by returning a plenteous After-pafture, and have more time to rot, wash into the Earth, and be drawn by the Worms: This is not only the Farmers, but the Gardeners best Friend, by making their hot Beds, and producing of Mushrooms, Melons, &c.

The Stale of the Horfe, is by some faved at the Corner of the Stable, in a Hole at the end of a descending piece of Ground, and sprinkled on Corn, or Grass, to the great forwarding of their Growths: It is also, as well as the Dang, of a very strong Nature, especially of the Stone-horse, and I will engage it shall answer its several Intents in Vegetation, if rightly applied to any fort of

Gorn, Grafs, or Wood-grounds.

Hog-Dung. Is by most Farmers accounted an excellent Drossing and a quick Promoter of the Growth of all Vegetables, it being of a more moist fat Nature than the dry hot Horse-dung, and therefore it is preserred, especially for enriching our Barley-grounds, directly as it is made from the Hog-yard or Stye: For this, by the great Quan-

Quantities of Corn that the Swine devours in fatting, return a confiderable deal of faline unchoos Excrement, that will mix with, nourish, and impregnate the Earth, with its fructuous Qualities. It is therefore much better to be incorporated with Mould that is to be laid about a Tree's Roots, than the Horfe-dungs; but then due Care must be taken first to let the Swines-dung and Mould lie mixed together sometime before the Tree is planted in it, left it damages it, for there is generally a great deal of Salt in this folid Dung, that its greafy Nature will not part with, fo foca as the more spungy, dry, and light Horse-dungs; wherefore if the Dung of a Hog is applied to a new planted Tree directly from the Yard or Sty; or if the Ground about an old Timber or Fruittree is dug up, and this Dung is laid upon or about its Roots in any Quantity, it will kill the Tree. Both this and Cow-dung are in some of the Northern Counties of Value for more than Field use, particularly in Lincolnsbire; where the Hog-dungs ferve for foap and the Cow-dungs for fire. In thort it is good for all manner of uses where Dung is requifite; infomuch that it has oncouraged feveral to attempt a drefling of their Land by folding with Swine; but as they are most unruly Creatures, and cannot be well fenced out of a Field by Hodging, it has been laid aside again, by two Furmers that I knew began this Practice. However the general part of ours as well as the Vale-Farmers are more than ordinary careful to improve this fertilizing Dung, by giving the Hog plenty of Straw in the Sty, and throwing into their Yard, Garbidge, Weods, Roots, and many other Things that they will trample into their Dung, and make it better for Field wie phan of it was entire.

- I must own that this Dung has been treated as a cool Manure, but I now suspect the Truth of fuch a Tenet, finee this Beaft is mostly fatted with Peas and Horse-beans, and undoubtedly the Food of all Animals governs in a great measure the effects of their several Dungs, as may be seen by that and Stable-horses, for the latter is consequently hotter and more efficacious than the former for the growth of Vegetables: So in this of Swine as I take it to be furnish'd with great Store of hot Salts from fuch Food, I am of Opinion that it is rather a hot dreffing; for the better the Food, the better the Dung. b . /graqt oron ada at

Cow-dung. Is certainly a cold Manure in comparison of many others, and of an casy Solution, which proves it to be of small Virtue in forwarding the Vegetation of Plants if used alone; but if referved under cover and mixed with Ashes, Maltdust, Chalk, Lime, Horse-dung, Straw, Turss of Grafs, or with almost any other Earth, so that it may have time but to rot and incorporate; it will become a good dressing, especially on Gravels. Chalks, or Sands, for this being a cool Manure, will the better fuit with those hot, dry, and light Grounds; but where its spungy, loose and hollow, Parts are exposed to Rains and other Weather. its Goodness is soon wash'd out, and will remain. but an infipid Dreffing, and much more if it is laid, on the Fallow-grounds in Summer, as some of the ignorant Husbandmen do, where it lies spread on their Field-lands three or four of the Summer Months together, till the Sun and Air have exhausted all the Virtue thereof: This Dung thus rotted and mixed will also do great service on Sward or Pasture Ground, and produce a sweet Grass: So likewise if laid on arable Land presently ploughed in, will cause good Crops of Corn, especially in the light Grounds.

Mules

Nature,

and nature of Horse-dung, as to want no Explanation here.

Sheep's-Dung. By more than one Author is described as the best Ingredient of all others dissolved in Water, in order to multiply and forward the Growth of all Grain that may be steeped and imbib'd therein; but this and feveral other fuch aneient Notions are now supplanted by that much more excellent Propagator Salt-petre, with the help of some others; however as it hands in the Clais of Dangs, I must confess, I have found it by Experience to be the best and most universal Dreffing of all others that we use, to promote Vegetation, and that both in Summer and Winper. You This most serviceable Dung being of a hard, hor, faline, unctuous Nature, does more potently affift the Ground, than either Horfe, Hog, or Cowdung, by its fubftantial Parts, that are not ledbon diffolved and washed away by Rains, evaporated by the Sun, and dryed by the Air, as these more foft ones are, as may be feen by the great Quantities that lie long on the Surface of Commons and Fields, and therefore very much affigualt manner of Clays, Loams, Gravels, Chalks, Sands and Grafs Grounds! On Clays, as they are the colden of Earths, and this is the warmest for Creatures ! this Ground, as it is folded on, is mightly nous rished by their Wool, Dung, and State By their Wool, as it is press'd to the Barth by their lying on it, there is a Heat communicated; that its cold Nature greedily draws in and senefits it fel fland not only by this but also by les Greafe, which are both reckoned to fuccounthe May, as appears by the

Application of Lime and Off Cakes, that I than hereafter mention. By their Dung, this Clay returns very great Orops, for by its tenacious close

cain

Nature.

Nature, it holds this Drefling a long time, whereby it is heated, and in some degree hollowed when ploughed in, by which the Grain's Growth is forwarded most part of the Summer and Winter; and by the Sheep's treading it upon this Ground, it mixes with it in a much closer manner, than Dungs only laid on and ploughed in, whereby its Salts are closely joined to those of the Clay, and both together cause great Stalks and Ears of Wheat, &c. that we often see are the largest of all others. This Dung is certainly the more rich, as it is made by a Beast that can and generally does subsiff without the help of Water all the Year; for which Reason, their Dung is more than ordinary impregnated with those Vegetable Salts that are contain'd in the Grass, Hay, Straw, and Gorn that they alternately feed on; It is this faline Excrement, that is an Enemy to all Worms, Slugs, Grubs, Flies, and Catterpillars, as we find to our great Profit, by folding before and after the fowing of Turnep, Wheat, Barley, and other Seeds and when fed on Hay or Straw in Yards in the Winter, thefe Creatures are of prodigious Service in converting Stover to one of the best of Dungs; which have partly occasion'd many of our Farmore this great Straw-Year, to buy in Weathers to cat it, and make Dung instead of Cows, that fold as dear as Sheep were cheap as

A Fold (a cover'd one especially, if it could be had) is a very great Enricher both of Grafs and as table Grounds, by folding on the fame all the Winter with Weather Sheep, first frewing every Night a little Straw over the Ground, to keep it from too violently drawing the Body of the Sheep, which will also occasion their making the more Dung; and as it is deem'd by many the best of Dreffing, care is generally used to fave and obtain tain it after the best Manner; some therefore will add two Hurdles to a Fold of twelve, and so more proportion to more, about six Weeks before Machaelmas, because then the Days are more shore, and the Sun not so powerful to attract and extract the Virtue of their Dung and State, as in the forester Scalous, which renders a thin Dresling in the Fold at this cooler time of the Year, equal to a thicker one in the foregoing drier Part of the Sunimer.

The Stale likewise of this Beast is of course hotter and sales than some others, by so much as it is less used to supply its Drought by drinking; and therefore it is of a more fertile Quality to the Ground, which causes the diligent Shepherd every Morning to drive the Sheep briskly about the Fold, that they may be provoked to Dung and

Stale, before they are let out.

The Dung and Stale of Sheep, are most efficacious on all manner of Loams, but more on Gravels, Chalks and Sands; because these Grounds being of a light, hollow Nature (especially the two last) are by the help of the Fold, Brought under a closer Union in their Parts, than they of therwise would be, by any other Method that is now in use, whereby this Dreffing is made to mik with, and Mick to this loofe, flort Earth in fuch a tenacious manher, as enables it much better to administer its Salts to the Corn of Grass that grows therein; and then it becomes much firmer, and the Vegetables more fix d'and empower d'to with-Rand the Violence of Winds, and the Balhings and Washings of Beat-rains that otherwise might be fatal to fuch Grain, as I have before particularly explained as in the Chapters of Charks and Sands.

pouled on in finall the ams, out of a wateri

Rabbits-Dung. Is of so hot and fertile a Nature to both ploughed and sward Ground, that it is fold with us for Six-pence the fingle Bushel trodden in, after it has lain near twelve Months under cover, rotting, and is most commonly made use of in our Gravels, Chalks and Loams, where it is first fowed by the Hand out of the Seed-cot, and harrowed in with Barley, but will not so well answer in wettish Soils, as the Pigeons and some other Dungs will, because this is not of so hot a Nature as they are, yet as this Creature like the Sheep, can live without Water, its Dung and Stale is more hot and faline than many other of the fourfooted fort are: That renders it of exquisite Service both in proper, arable and Grass-grounds, if laid on either of them early enough, as at Christmas, or Gandlemas, that the Sun and Air may not dry and exhaust it, before its fertile Salts are communicated to the Roots of the Corn, Grass, or Trees; likewise for the Encrease of Turneps, this is of vast Service if thirty Bushels are harrowed into the Ground with the Seed: It has often moved my regret, to think of the great Quantities of this, as well as feveral other rich Dreffings that are carried to the London Leftols, and there confumed to little purpose, for it is certainly worth our while to pay very well for this tame Rabbits-dung there, and bring it thirty Miles into the Country afterwards.

Urines. As they are endowed with a burning Spirit, it calls for a careful Management on all forts of Grass, Corn, or Roots of Trees, that it furiously assists or destroys, as it is discreetly or indiscreetly applied; its right Use being not only in a small Quantity, but at a proper Season: In the first, it should be no more than sprinkled or poured on in small streams, out of a watering or other

other Pot or Dish: In the latter, it is to be done in January, February, or before May is over, that the dying heat of the Weather may not add to the fiery part of the Stale. I have thought human Stale of that importance in promoting the growth of Corn; Grass, and Trees, that I have and do allow my Maid-servant Three-pence for every Kilderkin the faves by emptying the Chamberpots into a Cask, which when full, I put into a Cart, and let it run out on my Corn or Grass, as it is drawn over them, by pulling out the Cork at each end of the Vessel. Likewise when I empty my necessary House, the Man mixes Straw with it in each Barrow, and puts it on a heap to lie in the Weather and rot, till it becomes fit to put on my Land, where when it is ploughed in, either at Michaelmas for Wheat or Rye, or in the Spring for Barley, it is of very great and lasting Service. The Urine of the Horse I take to be the strongest of any; next to that the Dog, as is proved by the Litter out of a Kennel of Hounds, which has been found to be of a more fiery Nature, than the Sheep, Hog and Cow: Chamberlye has peeled Wheat when foaked with Brine in it.

Pigeons-Dung. Is indisputably the hottest Dung for all wet Clays and moist Loams, where in a peculiar manner the fiery Salts act most potently in bringing forward the Growth of all Grain, Grass and Trees, that are sowed and planted in these chilly cold Grounds, and is therefore sent for many Miles by the Vale-men, and bought at Tenpence the heap'd Bushel, chiefly for their Barley-crops; because in Wheat-grounds it does not so well answer, if mix'd with the Earth about Michaelmas, for then by its lying in or on it near twelve Months, the Rains are apt to wash away its light sertile Properties too soon; but if sowed the

Adarch, this Dung will prove most esticacious if ploughed or harrowed in with the Grain, or sowed out of the Seed-cot on the Surface immediately after the Barley is got into the Ground; however in my Opinion harrowing in is the best way, for then it lies the nearest to the Kernel's Body, and if a wet Time should succeed, the Grain will soon get a Head, that will cover its Roots and shade them against the scorehing Heats of Summer: But they I mention only Clays and Leans, yet is there no one Soil as I know of that this Dung will not do good on, both in arable and meadow Grounds.

Hens-Dung. And all manner of other Fowlsdungs are of the very fame fort of fervice to all Land, the not quite fo hot and good as the Pigeons, if they are throwed on about Christmas or Candlemas, for then it is to be hoped fufficient Quantities of Rain will fall before the Spring is over, as to eaufe all Corn and Grafs under it to get a forward Head and Shelter against the Summer Droughts: This Hens-dung with us is fold for fix-pence the double Bufhel, put into the measure as hollow as can be, but if trod in and heaped, then a fingle Bushel is reckoned at the same Price, and is used in all the intents and purposes as Pie geons-dung is. Hens-dung is frequently mix'd with Chaff, Malt-duft, fhort Horfe-dung, Cowsdung, 630, by putting any of them under, where these Howls roof, that they may be incorporated and rot together, for here this Manure will mix with and diffuse its Salts into their several Species. to as greatly to encrease a large Quantity of excellent Hand-drefling for all forts of Corn, Grafs, or Wood-land ! This makes some reckon one Load of neat Hens-dung to be worth fix of fome common Dung, and is of such light clean Portage in Sacks on HorseHorse-backs, that it may be carried and fowed in distant Grounds, when the Cart cannot convenient-

ly come.

Soot. Is a most powerful Manure, made use of by many of our best Farmers in the Chiltern, tho' but by few in the Vale, because they grudge the Charge, and supply it with their Flocks of Sheep; not but that it will do as much good there as any where: Its chief use is, on Wheat, Rye and Barley, and is commonly fown from Christmas to April on any of them out of a Seed-Cot as thin as can well be, to the Quentity of twenty or twentyfive Bushels on an Acre, for if the Soot was to be fown fooner, the Winter Rains and Snows would endanger its goodness being wash'd away too carly; but of late some sow their Wheat and Rye in August, that they may eat their first head in Nowember with their Sheep, as reckoning it to be near as good a Crop as of Grass; and then will dress them with Soot about Christmas, that they may the fooner get a fecond Head. This is also a most excellent Dressing if that Quantity is fowed on Barley just harrowed into the Ground, and will not only return a good Crop of this, but also another of Pean, Beans, Thetches or Tails, the fugoceding Seafon: On new fown Turneps there is nothing better than Soot, because it destroys and keeps off the Infects, and vaftly forwards the Turneps growth: On St. Foya, twenty Bushele of this fown at Candlemas on an Acre once in three Years, exceeds all other Dressings whatsoever and to on Lucern, Clover, and all other artificial and natural Graffes, because it kills all Moss, and forpes on the growth of the St. Feyn fo fest, that it gers the better off, and keeps down the breed of Weeds; it also spoils the Growth of the Clobweed, Ruth, and several other course Vegetables,

and brings up in their room the Honey-fuckle the fame Year: Of late our Farmers have been fo frugal, as to buy their Soot at London in the Summer, by carrying thither Grain, Chaff, or Wood, and bringing back Soot, which they lay in a cover'd place all the Winter till Christmas or Candlemas for Wheat, or later for Barley, for then it is commonly ten or twelve-pence the Bushel delivered to us in the Country; whereas if we buy it at the best Hand in London, before or presently after Harvest, we often have it for Six-pence the Bushel there; but then due care must be taken that it is not adulterated with Cork, Smiths or other Ashes, that are too often mix'd for the Encrease of their Measure, especially by those Chimney-Iweepers that live in the Suburbs of London: Alfo if it is bought of the Waggoners, their Meafure should be examin'd, for I have known one of the worst fort of them, bring down four or five. as prefuming it would not be observed by the Buyer. In short, there are such Quantities yearly used of this forcing Dressing, that some fifty Pounds a Year Farmers have confumed three Hundred Bushels in one Spring Scason: Nor do I know of few or any that rent from fifty Pounds a Year and upwards, but what buy annually more or less of this London Soot, that will dress our Chilternland for two Crops: I have therefore thought it necessarily incumbent on me to enlarge on this most valuable Arricle, and because Authors in this, as far as I have found, are generally deficient in exposing its several Uses; and particularly Mr. Worlige, who tho' a far greater Scholar than myfelf, yet is so wide of the Matter, that I will here infert all he says of it (as far as I know) in his fix Shillings bound Book, Entiruled, A Compleat System of Husbandry, &c. Dated in the Year 1716. Page 119, "Soot also is affirmed by some

to be very good, especially that which is made of Wood. It's most beneficial to Trees or Plants that either grow in the Shade, or to cold

" or moift Grounds."

There is a new piece of good Husbandry of, late acted by some that buy their Soot in Summer, and lay it in the same Field that is to be sown with it, where they thatch the Heaps with Straw,

that keeps off all Weather. or how all or who

Ashes. Either of the Wood or Coal fort, are a very good dreffing for Corn or Grass-grounds, the first we buy for Three-half-pence the single Bulhel, and fow it out of a Seed-cot in our Wheat, Rye, or Barley-ground, in February or March, by throwing twenty, thirty, or forty Bushels on an Acre of the Surface; but the Coal-ashes are fo full of Sulphur, that eight Sacks, or thirty two Bushels are full enough for an Acre, and are generally used on Grass grounds, where they will burn off the Moss, and fuddenly breed the Honey-fuckle-grafs to that degree, that I must needs fay, I think it an excellent Manure, especially if Rains foon follow their fowing: Farmer Wright of Barly-end this last Spring, put on about twenty four Bushels on an Acre, and had such a Burthen, as he never received in one Year on the fame Ground thefe thirty Years past: It was the Expression of a judicious Man I was in Company with, that a Bushel of Coal-ashes was as good for fward Ground, as a Bushel of our Wood-foot that is here fold for Six-pence; because the Sulphur in one was so much hotter and more preferable to the Salt in the other, and, next to Soot, is one of the best Remedies for killing the Clob-weed; Rush, and other coarse Grasses that too often infest the Meadow-grounds: The Ashes of Wood and Coal of late have gained great Reputation for their many fertile Ules, as well by themselves,

se mix'd with short Horse-dung, Cows, Fowls, and other Dungs and Stover; to likewife have those made from burnt Clay, Mould, Heat, Turf and Ant-hills: Yet I know of a large Meadow containing two or three Hundred Acres, that were sun over with Ant-hills, or Piffem-banks very thick; the Hills were out up with the wide Sharrplough, and the Grass-part put into Heaps with the Forks to lie and rot, but the Mould-part was immediately seattered over the Ground with the Shovel; the Turks being not to be medled with cill they are got fine by lying, fermenting and pubrifying almost a Year, and then it is to be spread about the Field: The roafon for putting the Turf into feveral Means, and not burning it into Ashes, was by the Owner thought more proper, because in this manner is contained and kept in its Sales better, than if often turned and exposed to the Washings of great Rains, or burnt? and also because this Ground lying low and wettish, this way would better thicken it, and keep it drier hereafter, than if it was reduced to Ashes, which I think is very confenant to good Husbandry: But whoever buys these London Ashes must take particular Care that they be pure and not adulterated with Dust and other Trumpery, for then they will likely decrive your Expectation; and so will the Ashes from great Brewhouses, Smiths Forges, Glass houses, and other Places in and about London, where by the fury of their large Fires the Affect are burnt to that degree that little goodhels is left in them, which causes those from private Families to be much more excellent, as they are less burne, for promoting the growth of Vegetables. In the Country we make a particular difsinction between Ashes from Wood (the hard fort especially) and those from Furze, Fern, and Straw, for the latter are not for valuable as the former, because

cause the wood fort exceeds those from Furze, as much as the Furze does those from Fern, and Fern from Straw. Yet not with flanding the great goodsels there is in these Soap ashes and all others. they may be used to a Fault; for I have known this Drefling footien repeated on one and the fame piece of Ground, that they have lain to thick at bottom as to chook the growth of the Grafs to I shall in this Chapter write further. However, to do justice to this fertile Dresling, I must commend it next to Soot, Lime, and Fowls dung for not breeding Weeds, at the same time it nourishes the Earth, as the Horse and some other Dungs are apt to do, which has raised my Esteem so much for the London Ashes, that when I have fent Stack-wood thither, my Team has brought back a Load of these from the Town Lay-stalls. for which we pay Twelve-pence there; but thefe are wrong Places to take them from because as they here lie open to the Weather, they are often washed by the Bains, and so lose a great deal of their Sulphur, which is the effential part of their Dreiling, whereas if the Ashes were faved under sover, as they are brought out of the Houses, their goodness might better be depended on Lime. Has often been proved to be a prolifick Dreffing of all manner of Ground whatforwer and pled in a right manner of Fat in this is coagplated a ballamick alkaline Salt other before was fixed in the crude Stone or Chalk, and unable to act in the growth of Negerables; but now made free, and det at liberty by Calcination; offer till the acid barren Quality of Stones on other Minerals is a or no lignification to death, and foreful chalks and other Rembs, untels, they gracewed by his. Fermentation orme principals they are see capabas

ble of benefiting the Ground, Grain or Grass they sie laid amongit, because no hard dense Bodies can mix with, and affift the Earth, as the more loofe and powder'd ones do, nor can their worfe fferile earthy parts, that lie concealed in their original pristine State, be of service, till they are converted into a contrary Nature, which makes this dry burning Lime, not only to absorb and confume the Wets and moisture of Grounds that are often fatal in the Winter and Spring to the Wheat, Rye and Grafs, but also kills, wounds and drives away Worms, Snails, Grubs and Caterpillars; Lime therefore is used many Ways in Farming. First, By mixing it with Turf, Dung br Mould, and fuffered to lie till they are rotted and incorporated together, which will make an Excellent dreffing for Corn of Grafs-ground. Secondly, Forty Bushels of Stone-time should be Tlack'd in one Heap in the Pield by the Weather, which it will do in a few Days, and then fowed over an Acre out of a Seed-cot as thin as it can well be; this may thus remain for a Week, when the Wheat may be harrowed in broad Lands, or fowed in Stitches! Others will fetch Water directly and flack the Lime as foon as it is in the Field, and fow it while it is not, that it may bring the Ground into a Ferment Thirdly, It must be in like manner and quantity sowed over the Ground with Turnep-feed; the Lime is first to be harrowed in twice in a Place, and then the Turnep-feed once in a Place with light Harrows, Tourebly, On a Clover Lay forey Bushels may be harrowed in while it is hot, and let lye a Week or Fortnight, then harrow in the Wheat; this will deliver the Grain from the destructive Worm and other Infects, that often here destroy the Wheat, and will also cause it to gather thicker, and maintain itself in the cold wet Times of the Winter

and Spring, when others sicken or die; and therefore am surprized to find a late Author say, that Lime is most natural for light, fandy hot gravelly Grounds, and bad for wet, cold Gravels, but worst of all for cold Clays, as the same Mr. Worlige says, Page 106. Now in answer to this Assertion; It is my Opinion that Lime by its fructuous Salts and light Parts agrees with all forts of Grounds, both arable and grazing, but best of all with the cold wet Clays: For here are two opposite Natures, the one a fweet burning fort, the other of a very austere frigid one; which is consequently an Argument for the great good that Lime does on this Ground, and may apparently be feen from my Neighbour's Management, who with the Limy rubbish of his Kiln, dresses his high Clay-grounds, that annually return him vast Crops; and not only here, but in other Places that I have feen of the like Soil, and will hold good in the Ground for fix Years, if Peas or Beans follow the first wheat Crop.

Chalk. Is a Mineral that is of most exquisite Service in Farming, as being the greatest Alternative of any other to our Clays, Loams and Gravels Without this great Improver, the many fine Crops of Corn and artificial Graffes could not be obtained that are, because it cures the Clays of their sour, austere, cold, hard and tough Qualities, and Establishes for sometimes twelve, or twenty Years together a dightness, warmness, sweetness and shortness in their room; and so also in the Loams and Gravels, this Earth does wonders by converting their four and binding Natures into their contrary Qualities, whereby the Plaugh performs its Operations more eafily, and the Ground becomes more fertile, by causing these Earths to emit their Salts to their several Vegetables with freedom, which otherways would be tensciously Rr2

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fix'd and kept from nourishing the Corn and Grais, that would then want their vital Assistance; so that it evidently appears, that those who chalk most, receive the greatest Crops: But in the Vale they stand not in so much need of this most kind Earth, because their black and blewish Marly-clays are naturally short in themselves, and readily yield to the Power of the Air and Rain: Whereas our red Clays in the Chiltern are quite different to those of the Vale, and require the Help of Chalk or Sand to reduce their surly Bodies, as they will not be prolifick in their Productions: But this Dressing I have amply discours'd of in the Chapter of Chalks.

Horn-shavings. Are a warm spirituous hollow Dressing, and are of two Sorts, the finer and the coarser; the first is generally sold for twelve Shillings the twelve Bushel-lack, and the latter for less, and are sown out of a Seed-cot on Wheat, Rye, or Barley-ground just before the last Ploughing, to the Quantity of twenty four Bushels on an Acre, that will last six Years in the Earth; they are generally ploughed in with Wheat or Rye in Stitches, and also before Wheat, Rye, or Barley are harrowed in broad Lands: It is a most excellent Dressing in white Grounds, Sands, Gravels, or Loams.

Rags are a warm Manure, and by their fpungy hollow Parts serve as a very good Dressing in Chalks, Sands, Loams and Gravels, but best of all in the white Grounds, for in this dry Soil they sie, receive, and retain the Wets a long time, to the great Nourishment of the Grain or Grass that grows amongst them; and also by their thready, woolly Property will, in some measure, hold together this short Earth against the Frosts, Winds and Wets, that are apt to shoal, shatter, and blow tway the Ground from the Roots of the Corn,

and for this Purpose they are chop'd by a proper Instrument so small as to be fit for sowing with the Hand out of a Seed-cot, just before the last Ploughing for Wheat of Barley, and then ploughed in with the Wheat in Stitches; or if the Wheat and Barley are fown in broad Lands, the Rage must be first ploughed in, and the Grain harrowed after: Some will plough them in about Albollantide, that they may rot and mix with the Earth against the Barley Scason: These Rags are better or worle in Goodness and Value, the head Price of all being four Shillings per hundred Weight.

and an Acre requires four or five Hundred.

Hoofs. Are used after another Mahner of late. the Oxen or Cows especially, for instead of cutsing them to Pieces and ploughing them into the Ground; we force them into the Barth with Sucks. presently after the Wheat, Barley or Rye is fown, at about lix Inches or a Foot distance, in order to prevent the Dog, &c. carrying them away chere they lie almost smother'd with their Operations ready to receive and lodge the Rains, which will cause them to rot, putrify and mellow the Ground, so that by reason of the Dirt about them, their falt lying in the Ground, and their naufcous Tate and Scent, they lie fale from Dog, Fox, Badger, wild and Pole-cats, Wealels, Ranes and Sloats, and is a Dreffing for fix Years to Chalks, Gravels, Loams, Sands, and almost all other Soils; as are the Shoeps, Hogs, Goats and Dears-hoofs, that Wheat, Rye or Barley, as being of a finaller Bulk, and more easily covered in the Ground than the Cows are.

Hogs-hair and Concy-clippings. Are very good dreffings for the light Soils harrowed in with Wheat, Rye or Barley, fo are Oyl-Cakes of Rapefeed, &c. that are now used much about Latonia Bedfordsbire, Bedfordsbire, which they chop small or grind, and plough or harrow into a great Profit. These are most of them general Manures, and used more than ever, insomuch that I know sour Farmers Neighbours, that have equally contributed to the Purchase of twenty twelve-bushel Sacks, which they alternately fill with Chass, &c. and carry to London in their Waggons, where they again load with some of these as a Dressing for their Land: The Shavings, Hoofs, Coney-clippings, and other Manures, we commonly buy at Mr. Atkins in Turn-

millstreet near Clarkenwel.

These several Manures and Dressings for Land. are happily Ordain'd by Providence for the Encrease of Grain, Grass, Wood, &c. as being of most exquisite service to accomplish that great End. if by a right judgment they are duly adapted to Grain, Grafs, Wood, Soils and Scasons; otherwife they may become auxiliary Evils instead of Helps: As for Example, if a Person was to dress his wet Clays in Winter with only Cow-dung, or his Sands or Gravels in Summer with Soot, Lime, or Pigeons-dung; it's very likely he may lofe the end of his Design, by the first being wash'd away thro' its cold loofe Parts, and so rendered of little of no Efficacy; and the other by its faline sulphureous Nature, with the help of the Sun and dry Weather, be affifted in spoiling the Crops that grow therein: But above all other management there is an absolute necessity for making use of these Dressings alternately, that is, not only to dress the Grain, Grass and Soil with a Manure, but to alter these Supplies each Scason; for if I dress my Wheat-crop this time with Stable-dung, the next time it should be with Soot, and the third time with the Fold, Horn-shavings, Hogs-hair, Hoofs, or some other Change, and so for any oshe Grain, &c. else it may be depended on, the Earth

Earth and Grain will be saturated and tired with the repetition of one and the same fort, which is often the Cause of thin Crops; and to my Knowledge but lightly regarded by some ignorant Husbandmen, tho' to my Satisfaction I must own this profitable Notion of late has obtain'd a Probation with many that formerly cavill'd with a useful Tenet meerly for its being new; for undoubtedly different Dressings impregnates the Ground with different Salts and Sulphurs, which oblige the Roots of all Vegetables that grow therein, to draw their Food each time in a various manner, as I have demonstrated in the Chapter of the Beech-tree, and for which reason, as I have said before, the best Farmers change not only their Dressings, but also their Seed each, or at every other time of fowing for its greater Encrease: 'Tis therefore that we dress the Oat-stubble with Cart-dung for the following Crop of Wheat, in order to lighten and hollow the Earth that is commonly clung and heavy after an Oat-crop; but after a Pea or Beancrop we fold for the succeeding Wheat-crop, because after them, the Ground is generally loose and hollow.

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Louvier and Daubane

Earth and Grain will be futurated and tired with the repended of our and that ime tony, which is often the Dinte of thin theps; and to my Know. Actes out lightly regarded by tome imported Harbushess, the to my Shisheston I and on this profitable Notion of last has obtain'd a Probation with many that jorgethy civill'd with a utilia [13] net meerly for its town new; for undounredity, different Dreffings traps grasses the Ground with different Sairs and Salphurs, which addige the Roots of all Vegetable-than gros, declayed draw their food each time in a various mades, as I have demonstrated in the Chapter of the Recentres; and for which reston, as I have fail i clothe, the best L'armers change not only their Orchings, but alfo their Seed calls, or at every other time of fowing for its greater Energie: The therefore that we dreis the Ont-unbble with Cart-dung ior the following Crop of Wheat, in order to lighten and bollow the Earth that is come alvelong and heavy after an Oat-crop; but after a lea or Beancrop we fold for the faceceding Wheat-crop, becaute after them, the Ground is generally .wollod bas

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